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# BULLETIN



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## U.S. Army Medical Contingent to Task Force Forager



## PACIFIC



## PARTNERSHIP 2015

**LESSONS AND BEST PRACTICES**

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# **U.S. Army Medical Contingent to Task Force Forager Pacific Partnership 2015**

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### Foreword

Global health engagements conducted in the Pacific theater by a U.S. Army medical task force are an example of the U.S. Army's continuous commitment and resolve to the security and stability of the Indonesia-Asia-Pacific region. The U.S. Army invested significantly in the rebalance to the Pacific, and Army medicine did its part with collaboration and participation in Pacific Partnership 2015 (PP15), a U.S. Navy-led multinational humanitarian assistance and disaster relief preparedness mission, conducted May through August 2015.

PP15, led by the U.S. Naval Ship *Mercy* hospital ship, differed from years past with the integration of the U.S. Army 62nd Medical Brigade task force, on board U.S. Naval Ship *Millinocket*. The *Millinocket* was used to prove its ability to rapidly project a task force into a wide range of military and civilian contingencies, including humanitarian assistance and disaster relief. This was a proof of concept, and the 62nd Medical Brigade (headquartered at Joint Base Lewis-McChord, WA) was tasked to execute the mission: embark an expeditionary medical task force of health-care experts with medical equipment and supplies to conduct health engagements in four host nations, including the Republic of Kiribati, Federated States of Micronesia, Solomon Islands, and Republic of the Philippines.

The 62nd Medical Brigade's Task Force Forager was organized after receiving the mission directive and began predeployment training just months before departure. Upon embarking on the *Millinocket* at Pearl Harbor, HI, 15 medical personnel from the Australian and New Zealand defense forces; a civilian medical planner from Project HOPE (Health Opportunities for People Everywhere, a global health education and humanitarian assistance organization); and seven personnel from Navy Environmental and Preventive Medicine Unit 6 (NEPMU-6) were integrated into the unit to establish a combined joint medical task force. As a result, Task Force Forager was able to execute a wide spectrum of health engagements, including training and education, direct patient care, outreach programs, and public health projects, for the purpose of building capacity in each host nation.

Mission execution could not have been successful, however, without the U.S. Army and Navy medical planners of PP15, who collaborated with the U.S. Agency for International Development (USAID) during its predeployment site surveys.

The PP15 planners developed trusting relationships with host nation health-care leaders and civic leaders, including government officials from the agriculture and health ministries, hospital directors, and nongovernmental organizations. This reassured the host nations and showed genuine interest in continuing a meaningful relationship in the future.

The task force is grateful to the U.S. Ambassador to the Federated States of Micronesia, Doria Rosen, the Armed Forces of the Philippines, and the dedicated leaders and citizens of the host nations, who provided invaluable support prior to and throughout the mission.

Many lessons were learned during PP15 by the task force and host nation participants, which include best practices for direct patient care, various modes of training, and how subject matter experts influenced change in existing systems and programs. Health-care experts also learned how to operate in a different domain, work with different military forces, and interact with people of different backgrounds and experiences. This enabled personnel to critically think through complex issues and adapt to changing operational environments.

Pacific Partnership 2015 provided an incredible opportunity to exercise interoperability with allies and partner nations in accomplishing the ultimate end state of enhancing security and stability of host nations. The work achieved by the 62nd Medical Brigade task force demonstrated how military physicians, dentists, optometrists, nurses, veterinarians, mental health teams, physician's assistants, medics, and technicians can successfully perform as health-care diplomats in foreign countries. As the U.S. military continues to provide a presence in the Pacific theater, military medicine as a joint force multiplier shows a continuous commitment through global health engagements that make a positive impact and foster lasting relationships that develop into strategic partnerships in the present and the future.



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Task Force Commander  
62nd Medical Task Force ISO Pacific Partnership 2015  
“Committed to Global Health”



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## Executive Summary

Pacific Partnership 2015 (PP15) Task Force Forager was a joint and multinational engagement in the Pacific theater. The U.S. Army provided a substantial medical team executing a variety of cooperative health activities. This newsletter highlights those engagements.

PP15 was the 10th iteration in a series of multinational humanitarian assistance and disaster relief response missions intended to strengthen relationships, improve disaster preparedness, and enhance collective disaster response efforts among all participants. In 2015, the U.S. Pacific fleet executed parallel operations in support of Pacific Partnership 2015 with two platforms: The U.S. Naval Ship (USNS) *Mercy*, and the USNS *Millinocket* with the U.S. Army medical contingent aboard. In total, Task Force Forager conducted operations in four countries: the Republic of Kiribati, Federated States of Micronesia, Solomon Islands, and the Republic of the Philippines.

Task Force Forager's PP15 team included personnel and assets from each branch of the U.S. Armed Forces as well as the Department of Homeland Security, including the U.S. Coast Guard. The task force also consisted of partner nation militaries and nongovernmental organizations from Australia, New Zealand, France, the Republic of Korea, and Project HOPE (Health Opportunities for People Everywhere, a global health education and humanitarian assistance organization). As a combined joint task force, Task Force Forager engaged in a variety of local outreach efforts in areas such as humanitarian civic activities; engineering projects; and medical, dental, and veterinary services.

PP15 had four lines of effort: civil affairs engagements, cooperative health engagements, engineering civic action projects, and community relations engagements. The overarching themes were civil-military operations and humanitarian assistance.

Overall, PP15 was a great success for Task Force Forager. While providing direct care and services, Task Force Forager personnel also successfully set a foundation for long-lasting best practices and knowledge and built host nations' capacity, propagating positive effects. More than 320 engagements were conducted ranging, from humanitarian assistance and disaster response subject matter expert exchanges to direct patient care and cooperative health engagements. Many of these activities also included multiple engineering projects.



## Chapter 1

### Republic of Kiribati



**Figure 1-1. Various engagement locations throughout South Tarawa.**

#### Direct Care

Providing direct care during numerous engagements, Task Force Forager physicians treated 1,800 patients, veterinarians cared for more than 400 animals, and optometry personnel prescribed 216 pairs of eyeglasses. (See Appendix A for an in-depth statistical report.)

#### Subject Matter Expert Exchanges

The medical task force dedicated 1,800 man-hours to subject matter expert exchanges (SMEEs) in Kiribati, working alongside host nation counterparts in the following disciplines and locations:

- Internal medicine (Tungaru Hospital)
- Emergency medicine (Tungaru Hospital; Betio Hospital)
- Family medicine (Eita, Banraeba, and Temwanokou clinics)
- Antenatal, postnatal, pediatric medicine, and pediatric infectious disease (Tungaru Hospital; Eita, Banraeba, and Temwanokou clinics)
- Optometry (Tungaru Hospital; Temwanokou Clinic)
- Dentistry, including endodontic surgery and oral surgery (Tungaru Hospital; Betio Hospital)
- Pharmacy (Tungaru Hospital; Betio Hospital)
- Hospital Laboratory (Tungaru Hospital)
- Biomedical technology (Tungaru Hospital; Betio Hospital)

- Nursing skills (Tungaru Hospital)
- Nursing administration (Tungaru Hospital)
- Operating room nurse (Tungaru Hospital)
- Industrial hygiene (Tungaru Hospital and the community at large)
- Entomology (Tungaru Hospital and the community at large)
- Epidemiology (Tungaru Hospital and the community at large)
- Microbiology (Tungaru Hospital and the community at large)
- Environmental health (Tungaru Hospital and the community at large)
- Noncommunicable disease (Eita and Banraeba clinics)
- Mental health (Tungaru Hospital; Te Meeria Mental Health Facility)

### **Training Events**

The following single- and multi-day events were well-received by participants and valuable to advancing the proficiency of community health workers and first responders:

- Remote Island Medicine at Kiribati Teacher's College (73 students)
  - First aid/basic life support (BLS)
  - Mental health questions and answers
  - Dental hygiene
  - Medicine in austere environments/advanced first aid
  - Nursing ethics
  - Recycling, solar disinfection (SOLDIS), "tippy tap" (hand-washing station)
  - Bug bites, animal bites, ciguatera fish poisoning
  - Diarrheal diseases
- Basic First Responder Course at Betio Police Academy (16 officers)
  - Scene assessment
  - Triage
  - Control bleeding
  - Stabilize and splint fractured limbs
  - Stabilize cervical spine injuries
  - Move injured personnel to safe zones

- Nursing School Lecture Series at Nawerere (66 nursing students)
  - Nursing ethics
  - BLS
  - Infection prevention and aseptic technique
  - Triage and rapid assessment for children, adults, and elderly
  - Emergency maternal and neonatal care/neonatal resuscitation program
  - Head injuries, hypovolemic shock
  - Ciguatera fish poisoning
  - Fracture management
  - Noncontagious diseases/diabetes: foot care, wound care
- Nursing Skills Workshop at Tungaru Hospital (27 nurses)
  - BLS
  - Nursing ethics
  - Antenatal care
  - Postnatal care
  - Neonatal resuscitation
  - Diabetes
  - Wound care management
  - Diabetic foot care
  - Infection control and aseptic techniques
  - Basic trauma management
  - Oral health screening
- Health Emergency Workshop at Tungaru Hospital (20 attendees)
  - World Health Organization pandemic phases/epidemiology and trends
  - Post-disaster sanitation
  - Post-disaster entomology
  - Emergency room topics (triage and logistics)
  - Review of Strategic Roadmap for Emergency Management Workshop
  - Risk analysis overview
  - Discussion of medical priorities
  - Health scenario and discussion

- BLS Training for Dental Staff (six students)
- Two-day First Aid Course for Maritime Security Personnel (three students), Red Cross (two students), and Ambulance Drivers (two students)
- Dental lectures at Tungaru Hospital (three host nation providers)
  - Incision and drainage
  - Update on antibiotic therapy
  - Oral biopsy techniques
  - Temporomandibular joint

### **Veterinary Outreach**

The veterinary team, which consisted of two veterinarians and three veterinarian technicians, provided sterilization, euthanasia, surgical, and deworming services. The team worked alongside two para-veterinarians from the Ministry of Agriculture and two Australian veterinarian volunteers in four locations around South Tarawa. Team members conducted 471 surgeries on 381 animals, including dogs and swine.

### **Dental Outreach**

The dental outreach team consisted of a New Zealand dental hygienist, an American practical dentistry nurse, and two Kiribati hygienists. Together, they visited 12 schools on Tarawa and discussed the importance of dental hygiene. They also demonstrated proper hygiene and distributed toothbrushes and toothpaste to more than 5,800 children around South Tarawa.

### **Preventive Medicine**

Task force public health experts increased the knowledge of the Kiribati Environmental Health Department staff on mosquito identification, vector-control strategies, food safety, and drinking-water analysis and data interpretation. In turn, the Kiribati Environmental Health Department educated the public health staff on the “tippy tap” hand-washing station and the SOLDIS technology. Together, the public health experts and Kiribati staff reached out to a community that was affected by diarrheal diseases and built two tippy tap stations and demonstrated the SOLDIS technique. During the SMEE, host nation microbiology staff members showed task force medical personnel techniques for identifying pathogens rarely seen in the United States. In turn, task force personnel showed host nation staff members a technique to properly identify parasites in patient samples. Additionally, team members discussed disease outbreak responses and educated Kiribati personnel on the importance of communicating with, and aiding, the Kiribati Environmental Health Department during outbreak investigations.

## Lessons Learned

Though PP15-Kiribati was a great success for Task Force Forager overall, there is always room for improvement and increased efficiency, including information management and sharing. It is paramount to provide follow-on missions with pertinent information to ensure that Pacific partnerships continue to build instead of repeating the same mistakes.

### **Issue: The SMEE is Better Than Direct Care at Building Capacity**

**Discussion:** In order to build health-care capacity among host nation providers, emphasis should be placed on hands-on training, open dialogue, and working shoulder to shoulder with host nation counterparts in a clinic. Over time, as trust is built, areas that need improvement can be discussed, and potential solutions developed.

PP15 medical teams made great progress and identified numerous processes, practices, and policies for improvement. Strides also were made by conducting a hands-on basic first responder course and basic life support training; there is now at least a rudimentary skill level among the people who require such skills including police, nursing students, Red Cross volunteers, and ambulance drivers. Unfortunately, in some cases, key host nation leaders and providers were not present for the SMEE, which minimized the opportunity to exchange information with key influencers. However, many of the younger providers, interns, students, police officers, and teachers were very enthusiastic and invested in the training.

### **Recommendations:**

- Continue to emphasize SMEEs during planning instead of the old medical and dental civic action program models.
- Ensure that the right people are available for the SMEEs to maximize knowledge and information sharing among workers and improve patient care. Key leader attendance encourages maximum participation by subordinates.
- Host nation providers must understand that Pacific Partnership medical-professional experts are there to demonstrate best practices in their specialty. Stress that Pacific Partnership providers are a force multiplier to share knowledge, not to take on host nation provider duties for the day. When that happens, there is lost opportunity to develop the capacity of the host nation provider.

### **Issue: Biomedical Engineering Technology (BMET) Was Not Optimally Utilized Due to a Lack of Replacement Medical Equipment Parts**

**Discussion:** The hospital and clinics had many defective parts and inoperable equipment due to a lack of medical maintenance and services. This was a persistent problem disclosed by host nation providers. Although the advanced echelon adequately identified medical equipment in country, there was a shortfall in marrying needs with ordering equipment and getting it on the right ship. Task Force Forager's BMET success was limited to "making do" with local resources or whatever could be stripped from similar, non-operational devices.



### **Recommendations:**

- Assigned BMET personnel should participate in a predeployment site survey. BMET personnel will generate a successful outcome with lasting impact well after the Pacific Partnership task force leaves the country when they can participate in an advance visit to assess equipment, take careful notes, order the proper type and amount of repair parts, acquire proper manuals, and assemble proper tool kits. Despite the cost, good BMET generates a huge return on investment by creating goodwill and enabling real gains in capability by providing the right equipment to get the job done.
- In order to build capacity within the hospital infrastructure, more technicians who can maintain the medical equipment are needed. In the absence of those assets, and to ensure the proper maintenance of the medical equipment, clinic personnel need to be trained to conduct daily maintenance of the equipment. A checklist for the staff and routine inspections by clinic directors should be implemented to ensure the optimal utilization of their medical equipment.

### **Issue: Early Advertising Must Be Provided in Local Communities**

**Discussion:** At one of the veterinary outreach locations, the team was underutilized. It appeared that the site was too remote or that not enough people knew about it.

**Recommendation:** Advertise the availability of veterinary services. Initially, veterinary clinics received more “business” by chance or only when people saw clinic personnel setting up. However, when a local mayor visited one of the veterinary clinics and provided positive comments on the available services and efforts of the task force, and informed the local town council of the next day’s events at the clinic, local men immediately rounded up dozens of animals for sterilization and other veterinary procedures. This drastically increased the clinic’s activities.

### **Issue: Coordination with Nongovernmental Organizations (NGOs) in the Area of Operations Is Needed**

**Discussion:** On a few occasions, Australian and local volunteers arrived to help at the veterinary surgery outreach clinic. Their assistance was greatly appreciated, but their support was unpredictable.

**Recommendation:** Improve coordination with local NGOs to exploit insights and social connections, combine manpower, and increase economy of force when appropriate.

### **Issue: Partner Nation and NGO Participants Were Excluded from the Information Flow**

**Discussion:** Partner nation and NGO participants were denied access to mission command meetings and decisions, and were not authorized access to the common digital network for e-mail and shared files. The medical planner for Task Force Forager was a New Zealand officer who had no access to current plans outside of what was e-mailed to him via Gmail. Additionally, his access to Gmail was limited by a restricted and unreliable Internet connection. This greatly impeded his situational awareness and ability to organize missions and logistics for upcoming engagements. The NGO volunteer also suffered from a lack of information, which affected his ability to appropriately conduct research, collect information, and develop analyses.

**Recommendation:** Establish a SECRET Internet Protocol Router Network (SIPRNET) room at the Mission Operations Center, or sequester all SIPR communications to allow partner nation participants access to the command element. Also, establish a protocol for digital information flow to partner nations.

**Issue: There Was Ample Transportation for all Personnel, Equipment, and Missions, Including Time-off Activities**

**Discussion:** This was a complex mission, with many moving pieces, to many different locations, on a daily basis. Despite this, there were very few occasions when transportation was unreliable. The vehicles (from a two-seat pickup truck to a 22-passenger bus) were appropriate, and there was enough variety to accomplish the daily missions. Transportation was readily available when needed (6 a.m. to 10 p.m., daily). Transportation also was made available for time-off activities, which was a great morale booster for the force.

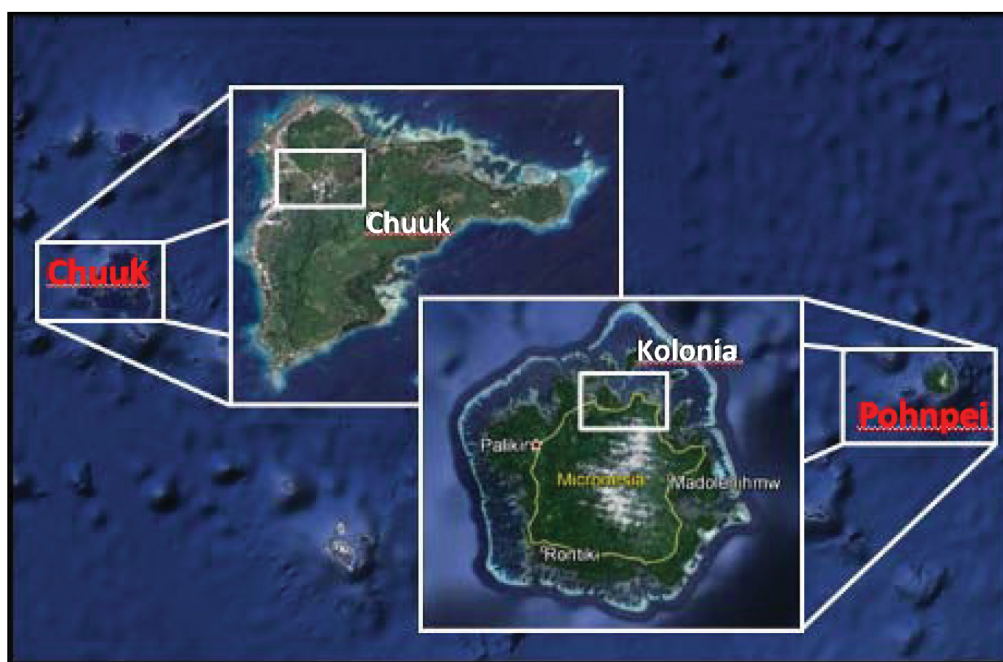
**Recommendations:**

- Continue to contract adequate transportation, and ensure that drivers are on time and supplied with all possible mission locations.
- Continue to provide vehicles for time-off activities until at least 10 p.m. (Monday through Thursday) and all day on the weekends.



## Chapter 2

### Federated States of Micronesia



**Figure 2-1. Locations of Pacific Partnership 2015 engagements in the Federated States of Micronesia.**

#### Subject Matter Expert Exchange (SMEE) Overview

The premier events on Pohnpei were community health engagements (CHEs) at Madolenihm and Nanpei high schools. The events followed the traditional medical and dental civic action program (MEDCAP/DENCAP) model of engagement, focusing on direct care to the underserved population with some collaboration and exchange of knowledge between Task Force Forager subject matter experts (SMEs) and their host nation counterparts. (See Appendix B for an in-depth statistical report.)

Key host nation leaders and coordinators attended the CHEs, but the providers were not always present, which minimized the opportunity to exchange information and conduct hands-on training with patients. Specifically, only one of three dentists at the Pohnpei State Hospital (PSH) dental clinic was present at the CHEs. The clinic was open for patient care, which made it difficult for the other dentists and assistants to participate in the CHEs.

The CHEs established some connections that helped to improve host nation medical capacity, but in terms of sustainment, embedding task force SMEs in host nation facilities may be just as effective. Ultimately, the task force medical team was able to treat the underserved population, which has limited access to health-care services. Executing the CHEs at the remote schools also provided a model for the host nation to follow for future medical engagements.

The premier medical engagement in Chuuk was a mass drug administration (MDA) event conducted by a 14-person fly-in team. The intent was to provide preventive chemotherapy to reduce the risk and spread of lymphatic filariasis. Each resident who registered was given

albendazole (400 mg) coupled with ivermectin (150-200 mcg/kg). Such large-scale treatment is a strategy adopted by the World Health Organization (WHO) to stop the spread of infection. The event at Chuuk treated more than 1,700 residents, or 26 percent of the local population. The end goal for WHO was to reach 65 percent; with 16 percent already treated prophylactically and the additional 26 percent covered by the PP15 task force, 42 percent of the population was ultimately reached. The planners encouraged administration of the medications along with optometry services and vaccinations. The task force optometry team distributed 334 pairs of eyeglasses. Because of the need for manpower, many of the health-care providers stepped out of their primary roles to assist with the drug administration. Although these highly trained professionals were not employed in their field of expertise, they received valuable information regarding lymphatic filariasis and its prevalence in the local population.

Other events in Pohnpei used the subject matter expert exchange (SMEE) concept and were effective in building capacity. For example, members of the task force biomedical engineering technology (BMET) team worked alongside the Federated States of Micronesia (FDM) Environmental Protection Agency (EPA) BMET team members to help them become more familiar with their equipment. The task force BMET team spent numerous hours instructing the EPA team on how to work around shortages and gain access to resources and technical manuals. The task force BMET team also worked closely with an air conditioning technician at the hospital who had received training as a biomedical engineering technician. The technician shadowed a U.S. Navy hospital corpsman and a U.S. Army staff sergeant to gain additional knowledge of basic medical equipment repair to include dental operator chairs.

The task force dental team, consisting of a hygienist and three technicians, empowered the host nation dental technicians to develop and follow new checklists to reinforce infection-control procedures in the dental operatories, property accountability, staging equipment and materials in each operator, and personal protective measures.

The task force public health team leveraged its expertise to instruct EPA, host nation business, and host nation public health personnel about better techniques for inspections, collections, analysis, and personal safety.

The task force obstetrics-gynecology and oral and maxillofacial surgery teams conducted surgeries in the PSH operating room (OR) with their host nation counterparts and nursing staffs augmented by PP15 nurses. The OR nurse spent a few days with the host nation OR technician to train the importance of maintaining a sterile field in the OR. The recovery nurse from the New Zealand Defense Forces recovered the patients, but had no host nation nurse with whom to exchange information. Without a designated recovery nurse, the host nation anesthesiologist is routinely responsible for recovering the patient immediately outside of the OR.

### **SMEE Breakdown**

Task Force Forager medical SMEs worked many hours alongside with their host nation counterparts in the following disciplines and locations:

- Behavioral health (PSH; Pohnpei State Prison)
- BMET and repair (PSH, Chuuk State Hospital [CSH], EPA facilities)
- Dentistry, including endodontic surgery and oral surgery (PSH)

- Emergency medicine (PSH, CSH)
- Entomology (PSH, CSH, and the community at large)
- Environmental health (PSH, CSH, and the community at large)
- Epidemiology (PSH, CSH, and the community at large)
- Family medicine (PSH)
- Industrial hygiene (PSH, CSH, and the community at large)
- Internal medicine (PSH)
- Microbiology (PSH, CSH, and the community at large)
- Nursing Staff Education Administration Training (SEAT) (PSH, CSH)
- Obstetric and gynecological medicine (PSH)
- Operating room nursing (PSH)
- Optometry (PSH)
- Pharmacy (PSH)
- Surgery, oral; surgery, gynecological (FSM College of Micronesia [FSMCOM], communities on the islands of Pohnpei and Depek)
- Surgery, veterinary (Small Animal Clinic of Kolonia)

## **Training Events**

Several single- and multi-day events were well-received by participants and very valuable in advancing the proficiency of community health workers and first responders:

- Helping Babies Breathe (HBB) training program, conducted at FSMCOM and CSH (50 students trained)
- Basic First Responder Course (BFRC) (41 students), which was conducted at the Governor's Building and included the following training:
  - Scene assessment
  - Triage
  - Control bleeding
  - Stabilize and splint fractured limbs
  - Stabilize cervical spine injuries
  - Move injured personnel to safe zones and/or next echelon of care
  - Cardiopulmonary resuscitation

- Nursing Symposium, which was conducted at FSMCOM (22 medical professionals) and provided the following training:
  - Nursing ethics
  - Staff/team evaluation of prevention program
  - Diabetic/hypertensive retinopathy
  - Noncommunicable disease/diabetes: foot care, wound care
  - Oral health screening
  - Nutrition
- Teacher's Symposium, which was conducted at FSMCOM (26 teachers) and included the following training:
  - Common eye problems in school-age children
  - Basic first aid procedures
  - Oral health screening
  - Autism
  - Managing behavioral problems in the classroom
  - Mental health case discussions
- Search and Rescue Exercise, conducted with the U.S. Coast Guard and Pohnpei Port Police
- Dental Symposium, which was conducted at PSH (four host-nation providers) and included the following training:
  - Dental hygiene
  - Infection control/sterilization procedures
  - Endodontics overview
  - Infections and antibiotics
  - Dental trauma
- Veterinary Medicine and Animal Husbandry training, which was conducted at the FSMCOM School of Agriculture and included the following training:
  - Disease series: rabies, leptospirosis, zoonotic diseases
  - Swine husbandry: reproduction, improved techniques for processing
  - General swine diseases
  - Dry litter systems (with host nation personnel)
  - Food handling



- One-day Basic Trauma Management, conducted at FSMCOM (23 students)
- One-day Basic Life Saver Training, conducted at FSMCOM (36 students)
- One-day First Aid Course, conducted for PSH staff (15 students)
- First Aid Class at Pohnpei State Police Station (three instructors, five students), led by the host nation

## **Community Health Engagements**

Task Force Forager conducted CHEs at two high schools on Pohnpei in areas underserved by the national or regional health-care systems. In round robin-type arrangements, each patient was triaged and directed to the appropriate provider. Treatment included antenatal care, optometry, dentistry, internal medicine, family medicine, and vaccinations. In three days at Madolenihmw High School, the medical team examined almost 750 patients, extracted 159 teeth, and distributed 220 pairs of eyeglasses. In three days at Nanpei High School, the team examined almost 800 patients, extracted 227 teeth, and distributed 319 pairs of eyeglasses.

These CHEs were requested by the host nation and were primarily direct-care DENCAP- or MEDCAP-style events. Despite the focus on direct patient care, the medical teams made efforts at every opportunity to maximize the exchange of information and skills to fellow providers. In addition to providing care that residents of this region would not otherwise receive, Task Force Forager medical teams contributed to building the skills and knowledge of their counterparts in an effort to sustainably increase capacity.

## **Veterinary Outreach**

The Task Force Forager veterinary team spent much of its time on Pohnpei and Depek conducting site visits at swine farms and providing instruction at the local School of Agriculture. The team also spent three days in small-animal clinics. During these events, the team trained 33 host nation farmers and agricultural students, examined 95 animals, and conducted 109 surgeries alongside host nation veterinary technicians and students.

## **Dental Outreach**

Task Force Forager's New Zealand dental hygienist served as a one-person outreach team during this phase of PP15. The dental hygienist's planning and initiative produced multiple lectures and demonstrations of dental hygiene at the CHEs and during teacher and nurse symposiums. The hygienist's work fit well into the task force's health education strategy by targeting children, teachers, and health professionals, which increased their awareness of the importance of dental hygiene to overall health. The hygienist also distributed toothbrushes and toothpaste to more than 280 children at four locations around Pohnpei.

## **Basic First Responder Course**

The Basic First Responder Course is a proven, high-yield, sustainable, capacity-building course that improves disaster readiness and overall medical responsiveness in host-nation communities. Although the team specializes in training first responders, the team also trains novices to provide a better level of initial care. Each student is individually evaluated on skills before certification

is granted, and Task Force Forager instructors have developed an approach that identifies top performers and recruits them to be instructors. On the last day of work in FSM, the team realized its impact when four hand-picked instructors from the previous week's instruction were observed training new students of all vocations from across Pohnpei. The team is confident this training will sustainably propagate across this community well after the departure of Task Force Forager personnel. In the first two weeks, 41 students received training.

### **Helping Babies Breathe Program**

The Helping Babies Breathe program is a low-cost, sustainable initiative developed by WHO, the U.S. Agency for International Development (USAID), and the American Academy of Pediatrics to provide train-the-trainer courses on newborn resuscitation in resource-limited settings. Task Force Forager's medical contingent introduced this course with a four-day training format in Chuuk and Pohnpei. The first two days, led by Task Force Forager personnel, gave host nation providers the course content and the skills needed to be trainers. During the following two days, the newly minted host nation trainers taught a class of their own.

In total, 33 providers from Chuuk, Pohnpei, and the Marshall Islands completed training; 14 of them also gained teaching experience. The students in FSM quickly grasped the concepts, and it was evident that this basic level of training could significantly help reduce neonatal mortality rates, especially in remote areas where births often occur out of the hospital. WHO provided the funding for the Marshall Islands students, and future classes are already planned in all regions.

### **Blood Safety Workshop**

The Pohnpei Blood Safety Workshop was performed under the direction of PP15. It was conducted from 01 to 03 JUL 2015 at PSH by two U.S. medical personnel.

The workshop scenario (incorporating lookback and transfusion reaction) generated a successful, interactive learning experience. Students were excited to participate, and the workshop provided an opportunity for positive conversation among the hospital staff. The three-day timeline was appropriate for the training material as it provided extra time to perform last-minute changes that optimized the number of staff that could attend.

This engagement had two immediate positive outcomes:

- First, it built a partnership, established a relationship with the blood bank, and shared this contact with the Pacific Command blood commander and the director of the Navy Blood Program. U.S. forces now have a single, reliable point of contact for future emergency operations in FSM, which sets the stage for efficient, immediate coordination in an "all hazards" response.
- Second, the hospital director agreed to follow the PP15 recommendation of using wristbands that properly identify patients before blood transfusions. This simple, low-resource procedure avoids an antibodies blood-group hemolysis reaction, which often results in death.

The instructors of the Blood Safety Workshop are stationed at U.S. Naval Hospital Guam. Being from a small island in the Pacific and working at a blood donor center in transfusion services enabled the instructors to easily relate to host nation staff and provide realistic recommendations for some of the challenges of blood banking on a remote island.

## **Veterans Health Initiative**

This engagement was a priority request from the U.S. Embassy for PP15, given the challenges for FSM veterans who served in the U.S. Armed Forces in terms of qualifying for and getting access to health care through the Department of Veterans Affairs (VA) system. The nearest VA facility is on Guam. VA declined to participate in PP15, citing a lack of adequate advance notice. The two-day engagement allowed host nation and U.S. providers to conduct medical assessments of eight Micronesian veterans, who had their appointments coordinated through the U.S. Embassy. Objectives of the PP15 team included the following:

- Demonstrate listening and caring to honor qualified VA patients.
- Offer comprehensive primary care and behavioral health assessment and education.
- Evaluate and treat acute/minor illnesses in partnership with PSH staff.
- Assist the veteran in establishing patient-centered health-care goals.
- Complete disability benefit questionnaires as appropriate for enrolled veterans.
- Assist PSH in establishing an ongoing program to achieve key objectives and liaison with VA representatives if/when the opportunity presents itself.

At the request of the U.S. Embassy, a road map was created, detailing the steps and key personnel who can initiate this process. A meeting was held on the last day of the PP15 mission, which involved the medical task force leadership, the mental health team, advanced echelon team members, the acting governor, other government officials, and directors from PSH and Genesis Hospital. The meeting was deemed a success by all members present; the most critical outcome was that key personnel volunteered to take on crucial responsibilities and pledged their commitment to the initiative.

## **Project HOPE Leadership Development Training**

Task Force Forager's Project HOPE (Health Opportunities for People Everywhere) volunteer, a University of Missouri professor, presented leadership development training at PSH. He developed a curriculum and provided training that addressed both hard- and soft-skill needs of the hospital. He delivered five days of lectures to 79 attendees, with course offerings that included Microsoft Excel and PowerPoint programs, leadership versus management, customer service, and policy development. Attendance consisted mostly of management-level staff and future leaders of the hospital. Additionally, the professor worked with the hospital director to begin the process of establishing three new departments: Patient Advocate, Marketing, and Public Affairs.

## **Forward Deployable Preventive Medicine Unit (FDPMU)**

The FDPMU provides health service support by rapidly assessing, preventing, and controlling health threats in a theater of operations and enhancing organic preventive medicine assets. The Task Force Forager public health team consisted of an entomologist, two environmental health officers, an industrial hygiene officer, a microbiologist, two preventive medicine technicians, and a lab technician. These experts spent many hours with representatives from several governmental public health agencies demonstrating their capabilities in a facility they established in a secure area at the Port of Pohnpei. Their key partners in this engagement, the Chuuk Public Health

Department and the Pohnpei EPA, discussed testing equipment and shared report formats designed to collect and analyze public health risks in FSM. Through this extensive collaboration, the team increased knowledge among community leaders and policymakers of an array of issues facing FSM, such as the following:

- Larval/pupal dipping
- Vector-control strategies
- Food safety
- Drinking water analysis
- Data interpretation
- Hazardous material response strategies
- Chemical detection equipment

### **Future Medical Opportunities**

When planning and coordinating for SMEEs during future Pacific Partnership missions, consider the following:

- Continue to work closely with international agencies and nongovernmental organizations (NGOs) to augment low-performing existing programs such as the WHO filariasis vaccination initiative. The mass drug administration in Chuuk, in conjunction with WHO, demonstrated an excellent way to reaching out to the local populace in the prevention of lymphatic filariasis. These events should be encouraged by host nation civil authorities.
- Emphasize SMEEs at host nation facilities during planning, as opposed to the old DENCAP/MEDCAP model. If a CHE is planned at an elementary school or venue outside of host nation clinics, request that the host nation provide as many health-care providers as possible to work closely with U.S. teams. SMEEs and information sharing, including best practices and techniques, can still be achieved at CHEs, but only with the presence of multiple host nation providers.
- Encourage host nation leaders to manage talent by committing the right people for the SMEE to maximize the effectiveness of information exchange and training. Key host nation and community leaders should be strongly encouraged to attend, which maximizes participation by subordinates and constituents. The host nation may need to create incentives to encourage participation of local providers. T-shirts or baseball caps with a PP15 logo, for example, would provide an incentive to recruit local volunteers and translators. Lanyards with name tags are another way to identify volunteers and participants.
- Host-nation clinical directors should gain an understanding of SMEE in which the professional medical experts are there primarily to demonstrate best practices in their specialty and for information exchange. Host-nation directors also should encourage maximum participation of local providers at the SMEEs.

- Hospital clinics should minimize appointments for emergency care and immediate care to maximize provider participation at the CHEs, which provide opportunities to develop skills.
- With deeper host nation involvement and commitment, the mass drug administration at Chuuk could have been assisted by host nation medical volunteers or students.

## **Preventive Measures**

Pohnpei is now equipped with more knowledge regarding vector control. Medical personnel have the basic equipment for larval/pupal dipping and can outsource identification of adult mosquitoes. It is recommended that the local government institute a monthly mosquito surveillance program, best incorporated into regular residential inspections, with simultaneous community education on the importance of disease control.

Both Chuuk and Pohnpei have sufficient sampling and diagnostic equipment (incubator, Colilert and Enterolert reagents, sample collection containers), and PP15 personnel are confident in the ability of local medical personnel to use the equipment correctly to assess drinking and recreational water samples for infectious agents. However, both states lack water chemistry analysis equipment (i.e., Model No. DR1900/2800) and colorimeters to detect residual chlorine levels and other hazardous contaminants in the drinking water supply.

Communication between the Disease Outbreak Response Team, at Pohnpei's EPA, and the hospital laboratory should be improved when investigating a disease outbreak. The population should be educated on proper hand hygiene and water disinfection methods (boiling or treating with bleach) to prevent disease outbreaks. If possible, community outreach engagements, including school visits, should be scheduled monthly, or programs to reinforce the importance of proper hygiene should be developed.

The host nation's hazardous materials (HAZMAT) response teams from Pohnpei EPA, police, and aircraft firefighters received training within the past five years. However, there is no sustainment training available for these first responders. Pohnpei EPA has only a four-gas analyzer, and does not have calibration gases to ensure that the analyzer functions properly. In general, FSM needs assistance to properly train and equip first responders to deal with HAZMAT and waste.

## **Lessons Learned**

### **Issue: Involvement in High-profile Events Can Present Unintended Negative Perceptions**

**Discussion:** At the host nation's request, the advance echelon's veterinarian planned a training session in which a pig was to be slaughtered and processed. The intent was to demonstrate safer butchering techniques than what are commonly practiced in FSM. The training was arranged well in advance with members of the College of Micronesia School of Agriculture, and a pig was secured from a local farmer.

Shortly before the event, it became clear to the task force veterinarian and the medical task force command element that the plan did not include a humane method of dispatching the pig. Involvement by a U.S. Army veterinarian in the slaughter could have violated professional ethical standards and risked creating a negative impression of U.S. personnel as either participating in or endorsing an inhumane practice. After much discussion and after evaluating courses of action, the task force leadership decided to allow the training to continue.

The risk of misperception was mitigated by controlling the context of the event — it was held on the grounds of the college; only swine farmers and School of Agriculture faculty and students were present; only one U.S. Army veterinarian was present to conduct the training (and the veterinarian was not present during the actual slaughter); the owner of the pig delivered the fatal wound; and the event was not recorded.

**Recommendation:** Better planning is required to ensure that such an event is conducted free of ethical concerns or risk of misperception. The location and attendees must be tightly controlled. The training focus of the event (the processing of the pig and not the slaughter itself) must be made expressly clear to all involved well before the event. The task force commander must be apprised of the event, its level of potential risk, and the risk mitigation measures taken well before the event occurs. If the level of risk is not mitigated, the veterinary team should prepare to execute the processing training with carcasses at a butcher shop or the School of Agriculture, or use multimedia sources to conduct the training.

### **Issue: BMET Technicians Were Forced to be Innovative with Minimal Medical Equipment Parts Due to Tracking and Accountability Failures**

#### **Discussion:**

- **First point of failure.** The predeployment site survey (PDSS) lacked a technician to identify and order the equipment/parts needed to enhance and sustain the host nation's medical equipment.
- **Second point of failure.** Parts that were eventually ordered were loaded onto the U.S. Naval Ship (USNS) *Mercy* for delivery, instead of the USNS *Millinocket*.
- **Third point of failure.** The equipment/parts chain of custody after USNS *Mercy* personnel sent them to the U.S. Embassy in FSM was not tracked properly. As a result, Task Force Forager personnel in FSM did not receive the items.

**Recommendation:** Send a BMET technician on the PDSS to identify, order, maintain, and monitor transportation and accountability of required parts and equipment.

### **Issue: At Community Health Engagements, It Was Often Difficult to Distinguish Volunteers and Workers From the General Public**

**Discussion:** CHEs are well-attended and can be chaotic. Each CHE on Pohnpei saw at least 750 people over three days, and the one on Chuuk saw more than 1,700 patients. About 40 members of the community or nursing school were present at each site to translate, help with patient flow, and work alongside U.S. and partner nation providers. Host nation assistants and volunteers were helpful, but tended to wander off during patient care, and providers frequently had to request another person to assist with translation or assist with services. Had the volunteers worn an identifying T-shirt or badge, it would have been easier to find them when needed.

**Recommendation:** T-shirts or baseball caps designed to identify host nation assistants and volunteers should be purchased and distributed. An item with a distinctive logo and the word "Volunteer" or "Staff" would prove helpful. Additionally, these items could be kept and worn by the citizens, providing a positive reminder of the PP15 mission for years to come. (There were several FSM businesses available to produce such T-shirts; check with the host nation for more information). Another option would be pins, stickers, or lanyards if T-shirts cannot be produced.

**Issue: Nursing Symposium Did Not Support Small Group Interaction**

**Discussion:** The objective was to have different specialties train host nation nurses on disease processes, how they affect care, and how to educate patients. Lectures were given on disease processes on the eyes, dental hygiene, team steps, nursing ethics, nursing care plans, nutrition, wound care, diabetic foot care, and product demonstration.

**Recommendation:** Keep the group small. This allows for discussion, which is conducive to learning because individuals can speak openly about current nursing issues.

**Issue: Nurses' Perspective Minimal on Triage during a CHE**

**Discussion:** The host nation did not lead in the CHE and did not provide information on how patients were triaged; therefore, the medical task force took the initiative to set up the triage process. There was a large group of individuals coming for care, and the task force had an inadequate number of host nation providers and translators working alongside medical personnel. Lack of translators becomes a safety issue because patients might not understand how to take their medication or what procedure needs to be performed. In addition, patients' medical history cannot be clearly reported without a translator. The mass influx of patients also did not allow the task force enough time to conduct proper patient teaching.

**Recommendation:** The host nation providers should lead the CHE. Once the host nation nurses and aides are comfortable with the triage process, then the task force should step back and allow the host nation to run the engagement. Host nation providers have a tendency to depart the CHE site once U.S. and partner nation providers start performing patient services. By allowing the host nation to lead in its respective areas, host nation providers remain fully engaged. More translators should be recruited and clearly identified with badges.

**Issue: Support for Staff Education Administration Training Program Insufficient**

**Discussion:** The objective of the program was to work with hospital nursing administration to ensure an effective program is set in place for maintaining staff education and to provide recommendations for existing programs. Nursing staff had insufficient time to collaborate with administrators and chief nurses to assess current programs. The schedule did not permit this due to the CHE at the schools.

**Recommendation:** It would be helpful to assess how the hospital's educational training program and nursing administration are conducted in the first few days, then present an out brief the following week based on the results of the assessment. A follow-up several months to a year later should be conducted to determine the effectiveness of the program.

**Issue: Helping Babies Breathe Training Program Should be Administered to Appropriate Audience**

**Discussion:** The program provided effective training on reducing infant mortality. Only a week after the course was taught to a midwife, the skills learned during the course were put to use and helped save the life of a newborn. This training program should be noted as a best practice program of record for all future missions. The training audience, however, should be selected carefully. The providers at Chuuk were appropriately selected by hospital leadership. At PSH, however, a blank sign-up sheet was posted on a clinic wall to recruit trainers. This was not the most effective way of recruiting the best student-trainers to sustain the program. Because



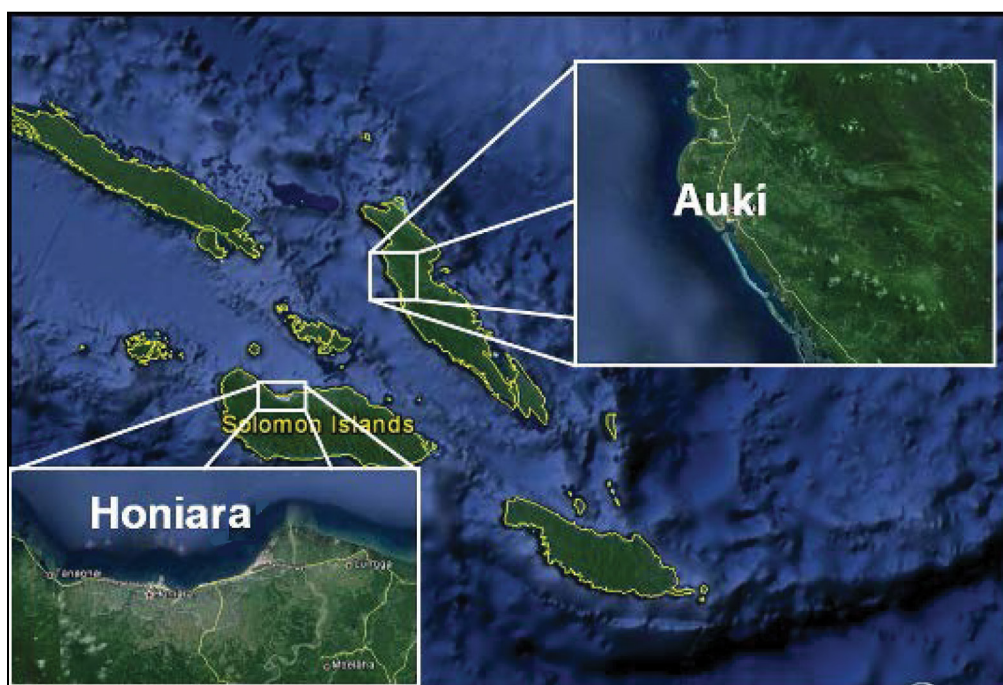
these trainers would receive kits including NeoNatalie newborn simulators and mini-suction/resuscitator packages, the expectation is for the student-trainers to continue training this program and build capacity.

**Recommendation:** For this program to succeed, talent management is critical. Hospital leadership should identify key providers who can potentially become trainers at their respective facilities. To expand this capability, purchase ample NeoNatalie and mini-suction/resuscitator packages for all trainees. This is a very effective program that can drastically reduce infant mortality. It is easily taught with the proper personnel, training materials, and supplies.

## Chapter 3

### Solomon Islands

Pacific Partnership 2015 (PP15) Task Force Forager was led by the 30th Naval Construction Regiment (NCR). The 30th NCR was experienced in joint operations, to include the two previous Balikatan exercises and Pacific Partnership 2014. Its knowledge and operational experience provided the necessary strategic oversight for the multidimensional Task Force Forager.



**Figure 3-1. Primary locations of partnership exchanges/training in the Solomon Islands.**

#### Subject Matter Expert Exchanges (SMEEs)

Subject matter experts (SMEs) worked many hours alongside their host nation counterparts in the following disciplines and locations:

- Behavioral health (National Referral Hospital [NRH], Kilu'ufi Hospital, Auki Correctional Facility)
- Biomedical technology and repair (NRH, National Public Health Lab, Mataniko Clinic)
- Dentistry, including endodontic surgery and oral surgery (NRH, Kilu'ufi Hospital, Good Samaritan Hospital [GSH], Mataniko Clinic)
- Emergency medicine (NRH, GSH)
- Entomology (Auki, Honiara, and the community at large)
- Environmental health (Auki, Honiara, and the community at large)
- Epidemiology (Auki, Honiara, and the community at large)

- Family medicine (NRH, GSH, Kilu'ufi Hospital, Talikali Health Center)
- Industrial hygiene (Auki, Honiara, and the community at large)
- Internal medicine (NRH, GSH)
- Microbiology (Auki, Honiara, and the community at large)
- Nursing administration (Kilu'ufi Hospital, Talikali Clinic, Gwaifai Clinic)
- Obstetric and gynecological medicine (NRH, GSH)
- Operating room (OR) nursing (Kilu'ufi Hospital, NRH, GSH)
- Optometry (Kilu'ufi Hospital, NRH)
- Pharmacy (NRH, GSH)
- Surgery, oral (Kilu'ufi Hospital)
- Surgery, gynecological (NRH)
- Veterinary husbandry (Ministry of Health, Honiara, and at cattle farms around Auki)

(See Appendix C for an in-depth statistical report.)

### **Training Events**

The following single- and multi-day events were well-received by the participants and very valuable to advancing the proficiency of key community health workers and first responders:

- Helping Babies Breathe (HBB) (modified) course, conducted at Kilu'ufi Hospital and Solomon Islands Nursing University (SINU) (26 students trained)
- Basic First Responder Course (BFRC), which was conducted at Rove Police Academy and Auki Police Station (54 total students) and included the following:
  - Scene assessment
  - Triage
  - Control bleeding
  - Stabilize and splint fractured limbs
  - Stabilize cervical spine injuries
  - Move injured personnel to safe zones and/or next echelon of care
  - Cardiopulmonary resuscitation (CPR)

- Nursing lectures, conducted at Auki and SINU (39 medical professionals) on the following subjects:
  - Stress management
  - Basic Life Support (BLS) with mock code blue
  - Diabetic foot care
  - Infection prevention
  - Physical assessment
  - Primary and secondary assessments
  - Triage
  - Remote island nursing care
  - Neonatal resuscitation and obstetrical emergencies
- Dental symposium, which was conducted at Mataniko Clinic (8 host nation providers, host nation dental staff) and presented the following subjects:
  - Surgical management of molar impactions
  - Infections and antibiotics
  - Infection control/sterilization procedures
  - Biopsies
  - Endodontics overview
  - Dental hygiene
  - Caries management by risk assessment
- Veterinary medicine and animal husbandry training, which was conducted at Auki and Ministry of Health, Honiara (over 80 people trained), and presented the following subjects:
  - Disease series: rabies, leptospirosis, zoonotic diseases
  - Swine husbandry: reproduction, improved techniques for processing
  - Para-veterinary training curriculum
  - Canine/feline care and handling
- Four-day Community Preparedness Exchange at Auki (240 citizens)

- One-day triage training at Vura School (24 people)
- Two-day “taxi driver” first aid training (18 people)
- Two-day emergency operations overview discussion at Heritage Hotel (53 people)
- One-day mass casualty (MASCAL) exercise in/around Honiara (60 people trained)
- One-day BLS course at Auki (25 people)
- One-day Staff Education and Training Course at Auki (25 people)

### **Overall Primary Care in Auki**

Remote clinics often are hampered by logistical problems — inadequate stocks of medication and immunization, and poor relay of laboratory/imaging/consultant results. A “top down” system for these items would greatly benefit these remote clinics and enhance the efficiency of a group of providers already overburdened by patient workload.

For example, during the antenatal clinic in Talakali, task force personnel ran out of chloroquine prophylaxis after seeing only three patients, and results from the sexually transmitted infection laboratory (from the prior month) had not yet been received. The problem was that these items required the provider at this clinic (already working seven days a week) to visit the hospital (40 minutes away by car, to which the provider did not have access) and collect the needed supplies and results. Similarly, at the Auki Health Clinic, task force personnel waited for over an hour for a provider to go to the hospital to pick up a supply of vaccines before the immunization clinic could open. On the following day, during outpatient clinic, providers ran out of even simple medications like Panadol (acetaminophen) and had to revert to writing prescriptions that had to be filled at the hospital pharmacy, over a mile away. For patients without a vehicle and in poor health, this distance was often problematic.

### **Veterinary Husbandry**

Solomon Islands does not have the rampant feral dog and cat problems that Kiribati does. Therefore, this phase of PP15 was not nearly as surgical in nature for Task Force Forager’s veterinary team. Veterinary team members spent much of their time on Auki delivering lectures to local farmers and representatives of the Ministry of Health. By instructing them on zoonotic disease and appropriate, sustainable mitigation strategies, the team was able to arm this community with new tools to protect and care for their livestock. The team also spent many hours with local policy makers and educators to refine their current policies, training, and curriculum. Ultimately, the team trained 122 host nation farmers, policy makers, and agricultural students and saw 53 animals at six locations.

### **Oral Hygiene Outreach Program**

The New Zealand dental hygienist served as the lead agent for the oral hygiene outreach team during this phase of PP15. The hygienist conducted multiple lectures and demonstrations at the Kilu’ufi Hospital and during five school engagements on Guadalcanal. The hygienist’s work fit well into the overall health education strategy by targeting children, teachers, and health

professionals and increasing their awareness of the importance of dental hygiene to overall health. During this phase of PP15, the hygienist also distributed toothbrushes and toothpaste to more than 1,400 children.

### **Basic First Responder Course**

The Basic First Responder Course is a proven, high-yield, sustainable, capacity-building course that improves disaster readiness and overall medical responsiveness in host nation communities. The team that teaches the course specializes in training first responders, but also can train novices to provide a better level of initial care. The team always assesses the baseline skill level of the group at the outset of training, and in the Solomon Islands it was found that several policemen had been through more advanced life-saving training prior to arrival. The team leveraged this experience during training by empowering the policemen to assist instructors to a greater extent than had been done previously. At the end of the course, each student was evaluated before certification was granted, and instructors developed an approach that identified top performers and encouraged them to be instructors. The teams in Auki and Honiara trained 54 policemen, firemen, and ambulance and taxi drivers. Based on the students' comments and public display of commitment by the Auki police commissioner, task force personnel believe this training will sustainably propagate across the communities well after the departure of Task Force Forager.

### **Abbreviated Helping Babies Breathe Course**

The Helping Babies Breathe course is a low-cost, sustainable initiative developed and supported by the World Health Organization (WHO), the U.S. Agency for International Development, and American Academy of Pediatrics to provide "train the trainer" courses on newborn resuscitation in resource-limited settings. Ideally, two days of direct training of host nation midwives and labor/delivery nurses is followed by two days of observed training by the newly certified students. In some cases during PP15, the training was abbreviated based on time or personnel constraints. In those cases, the concepts of the course were compressed from the two-day format into one day by stripping the "train the trainer" element from the presentation.

In both Auki and Honiara, two-day training events were conducted for two groups of 13 students each, consisting of a mix of nursing students, nursing school instructors, and experienced nurses from urban and remote health clinics. The two groups had little to no experience with deliveries and neonatal resuscitation, yet picked up the concepts and content of the course very well. The information was well-received, and the participants engaged the instructors in good discussions about integrating the culture and available resources into the principles of the course. While at first glance a group of nurses does not seem to be the right target audience, given the Solomon Islands health-care system, they are the appropriate group to engage in this training. Following nursing school training, nurses are posted at clinics where they often operate independently with limited resources and assume primary care responsibilities for a large catchment area. In these areas, they function more like a U.S. nurse practitioner or a physician's assistant. Their responsibilities often include midwife roles despite limited training during nursing school. This basic level of training could have a significant impact on reducing neonatal mortality rates, especially in remote areas where births often occur out of the hospital. The team felt confident that the principles taught in this class were sustainable and that properly trained host nation individuals could quickly be assigned to train all medical personnel involved in delivering babies in or out of the hospital.

### Mass Casualty Exercise

Eleven medical personnel assisted in the MASCAL exercise organized by the task force civil affairs team. The medics and physicians prepared 28 simulated casualties and directed a bus crash scenario. The police, firemen, ambulance drivers, taxi drivers, and local teachers whom the medics had been teaching for two weeks were the first responders and emergency staff. The exercise validated their new skills and provided some collective training in triage and MASCAL management for the police.

### Forward Deployed Preventive Medicine Unit

**Microbiology.** The microbiologist delivered lectures to local personnel and public health officials on common parasites in the South Pacific and observed host nation laboratory personnel conduct blood-borne pathogen screening on donor blood samples. To promote proper hygiene, the microbiology team built two “tippy tap” hand-washing stations at a rural hospital in Talakali that suffered from inadequate water supplies. The team assembled a new autoclave at the Auki Hospital laboratory and instructed the staff on its proper use and assisted with the disposal of contaminated agar plates. The team also reviewed testing processes for tuberculosis and malaria and observed techniques for microbiological testing, distiller procedures, and the making of agar plates.

**Entomology.** The entomology team conducted outreach activities with host nation vector control counterparts to a local community suffering from a recent malaria outbreak. Host nation agents conducted pesticide spraying in the area two weeks before the team arrived. The team worked closely with the host nation agents to determine the effectiveness of the spray treatment. The team utilized this opportunity to evaluate and educate local anti-mosquito procedures to help mitigate mosquito-borne disease. The team also conducted a survey of mosquito breeding areas and identified mitigation measures throughout Auki.

**Environmental health.** The environmental health team met with environmental health and water department personnel to explore water sources throughout the island and learn how water is distributed. The team learned that no water treatment or testing is done on the island of Auki, and offered suggestions on how to develop that capability. There are four water tanks on the island, but only three are functional.

The team also conducted food safety inspections at three food stores and made recommendations on canned goods safety, cooking temperature, pest identification in flour and grains, and expiration versus “best by” dates. Additionally, the team visited a rural clinic in Talakali to help identify reasons for the failure of existing rainwater catchment containers. The findings indicated a strong need for engineering repairs to the local water system.

While in Auki, the team joined the host nation environmental health staff during food inspections of three restaurants. The team made recommendations regarding kitchen and freezer cleanliness issues, which appeared to be a consequence of frequent unannounced power outages. The team found that rainwater catchment is the primary source of water for hygiene and cooking, and heating units were used to maintain cooked food at adequate temperatures prior to sale.

The environmental health team also assisted local water purveyors in Auki to develop appropriate water sources. They traveled to a remote mountain village and verified distance and capacity from ground water locations to pre-established water tanks. The team also established a food safety presentation to be delivered to local food establishment employees by host nation public health agents.



## **Forward Deployed Preventive Medicine Unit: Ways Ahead**

**Microbiology.** The laboratory in Auki has limited capabilities and resources. There should be better communication between the Auki and Honiara laboratories to ensure that supplies are replenished. As it is now, the microbiology portion of the laboratory has extremely limited ability to test patient samples. Unless significant improvements are made, it might be better to send patient samples to Honiara for analysis. Although the Honiara laboratory also has limited resources, it is better equipped for patient culture and analysis.

**Entomology.** It is recommended that the Guadalcanal provincial governmental offices in Honiara improve distribution of entomological resources to outer islands. The disease vector official in Auki should institute a more comprehensive vector surveillance program. With the help of the Global Fund and the WHO, the offices in Honiara have an indoor residual spraying (IRS) program. Safety measures are followed; however, it is recommended that the host nation procure safety equipment such as disposable gloves and other required personal protective gear. An information operation campaign is recommended to distribute educational materials on mosquito-bite prevention while conducting indoor residual spraying in communities where malaria, dengue, or other vector-borne viruses are present.

**Environmental health.** Future teams operating in Auki should focus on the following in regard to water:

- Water boiling needs to be emphasized throughout the island. Due to a lack of adequate water treatment, and without chemical disinfection, water should be boiled before consumption throughout the island.
- Hospital and microbiology laboratory personnel are inefficient in assisting environmental health staff in monitoring diarrheal or other disease outbreaks. Communications among doctors, microbiology laboratory staff, and environmental health staff to help mitigate outbreaks should be improved.
- The microbiology laboratory should conduct stool samples to help identify organisms and sources of outbreaks.

Future teams operating in Honiara should focus on the following in regard to water:

- The water treatment process was not fully explained and did not appear to be understood. When there was a question about treatment for faucet water, no one seemed to know whether the water was chlorinated, or treated at all.
- Honiara city council and environmental health department personnel should collaborate with the National Environmental Health Office to discuss exactly what the treatment process is so this information can be communicated to water users in the city.

Future teams operating in Auki should focus on the following in regard to food:

- Food should be monitored at Auki port, not after it has reached the store shelves. Expired products are being sold to consumers and pose a health risk. Inspections also should be conducted at Honiara because that is the primary source of food going to Malaita.

- Food establishments should be inspected on a monthly basis according to local policy and guidance from Auki's Environmental Health Department.

**Disaster preparedness.** Primary concerns of citizens and officials of villages visited on Malaita include the following:

- Desire for seawall construction to prevent flooding.
- Safety of drinking water catchments.
- Family planning due to unexpected and rapid increase in population.

These topics resonated with all villages due to proximity to oceans and impact on drinking water. Family planning and should be a focus of future operations in Honiara and Auki.

**Industrial hygiene.** The following applies specifically to the Solomon Islands:

- **Infectious waste.** The incinerator was not functioning at NRH, and infectious waste was either burned in an open pit or put in the landfill. As a result, there are concerns about infectious and hazardous waste management practices throughout the country. This was a continuing theme throughout PP15, and the recommendation is to bring a trained and qualified maintenance person to repair incinerators and/or train host nation personnel on proper operation and maintenance of incinerators. Solomon Islands government officials should contact a nongovernmental organization (NGO) that specializes in waste management capacity building. Resources include the Secretariat of the Pacific Regional Environmental Program ([www.sprep.org](http://www.sprep.org)) and the National Toxics Network and Island Sustainability Alliance C.I. ([www.ntn.org.au/wp/wp-content/uploads/2010/04/ntnisaci\\_pacific\\_ewaste.pdf](http://www.ntn.org.au/wp/wp-content/uploads/2010/04/ntnisaci_pacific_ewaste.pdf)). Managing waste should be a top priority because it degrades the environment and jeopardizes the health of the current and future population.
- **Enforcement.** There is little enforcement of policies and regulations dealing with occupational health and safety. Without consequence, there is little reason to comply with the law. Until enforcement is addressed, the Solomon Islands will continue to struggle with these issues.

### Future Medical Operations

For future operations, missions should focus on helping host nation hospital administrators develop a stronger, centralized system of logistics. The ability to restock by pushing from the hospital to the clinic (instead of the clinic coming to the hospital) would ensure ready availability for remote providers without affecting patient care. Additionally, a weekly delivery of laboratory/radiology results to each remote clinic would also help ensure that patients are treated promptly.

### Eye Clinic of Kilu'ufi Hospital, Auki

Logistics between Honiara and Malaita need a drastic improvement in the procurement process so ordered medications, eye glasses, and other supplies arrive on time. A new ophthalmic diagnostic kit is needed, and a Tono-Pen (versus a Goldmann applanation tonometer) is preferred to measure patient's intraocular pressure. A biomedical engineer should visit the clinics more

often to maintain the equipment. A system for ordering eyeglasses is required. This problem was addressed at the national eye conference, and improvements by national health-care planners is pending. Introducing a computer-based patient management system may be difficult, but is recommended to ensure proper tracking of patient ocular conditions.

### **Veterinary Medicine Symposium in Auki**

Continue to hold educational symposiums and, in the future, provide printed handouts for the participants. Providing transportation is essential for farmers to get to the venue on time. Diseases present on the islands or diseases that present a future risk should be identified for more targeted lectures. It is important to note that many diseases common in the United States are not common here and can cause unnecessary concern. Instruction on building modern cattle enclosures would benefit both humans and livestock and increase overall safety for all involved. Stressing education on handling techniques would increase the efficiency and safety of processing cattle for exams and prophylactic medications. There also is a pressing need for a “head catch” for the cattle-shoot system to ensure the safety of the veterinary personnel and farm hands in addition to the cattle.

### **Abbreviated HBB Education at the Honiara Nursing School**

The Honiara Nursing School is an ideal place to introduce the Helping Babies Breathe course. Although the physicians, midwives, and the NRH have more advanced training and experience, they provide care only to those able to reach the hospital. Residents in more remote areas and on other islands receive much of their care at smaller clinics staffed by nurses. The HBB full course could be taught to the teaching staff of the nursing school, enabling them to integrate this training into their curriculum. If the nursing students could receive this training as a part of their degree program, they would be much more prepared for the jobs they will be asked to do after graduation.

### **Staff Education, Basic Life Support, and Administration Training**

A one-day ward SMEE is not enough to build a relationship. U.S. forces should allot the same time for lectures and ward SMEEs. Stronger emphasis is needed on infectious diseases, specifically regarding isolation procedures and precautions within the hospital’s isolation ward. Currently, resources and space to create an adequate isolation ward are lacking. Diagnosis-specific education and cost-effective/resource-saving techniques for reducing cross contamination of patients and protecting staff from unnecessary exposure should be provided. For example, tuberculosis and leprosy patients were found together in an open-bay area, and no personal protective equipment or proper isolation facility was being utilized by patients, staff, or visitors.

Benefits include spending more time with nursing management, administration, and training staff to better understand the difficulties they face and provide advice and support. An additional benefit is visiting the other hospitals on Malaita to observe administration and management procedures and conducting a follow-up visit to Malaita to provide further assistance, reassess progress, and measure effectiveness of training.

Establishing a post-anesthesia care unit (PACU) will offer more opportunities to recover patients and provide accurate assessment of post-operational routines for the patient. An OR-specific standard operating procedure (SOP), including PACU guidelines, should be established. Mannequins and equipment for training should continue to be provided.

## **Pharmacy Security and Accountability**

During Task Force Forager's time in the Solomon Islands, there were many noticeable points of failure in the pharmacy operations at the Good Samaritan Hospital and National Referral Hospital. For example, physical security was virtually nonexistent; accountability of controlled substances was nonexistent; pharmacies were poorly stocked; and dispensing systems were unreliable. For future operations in Solomon Islands hospitals, the medical team should focus on assessing the pharmacies and assisting in the development of strong SOPs to maximize efficiency.

## **Lessons Learned**

### **Issue: Family Medicine Nurse Practitioner SMEE at Gwaifai Rural Clinic Was Not Sufficiently Understood**

**Discussion:** The clinic is well-organized. The Standard Manual of Care for the Solomon Islands (WHO, 2009 version) is available for use by clinic workers. Of note, whereas community health clinics in the Solomon Islands seem to be better organized than clinics in Kiribati or the Federated States of Micronesia (FSM), the level of training and education of the primary clinician is not as good as was observed in the other two countries. In Gwaifai and Talakali, the primary clinician is a registered nurse working within a scope more akin to a family nurse practitioner.

As in Kiribati and FSM, the idea of a subject matter expert exchange was not sufficiently explained or understood. The expectation among host nation clinicians as well as patients appeared to be that the Americans are there "to do the work in a better, more modern way."

### **Recommendations:**

- Mission team and host nation personnel need a brief introductory meeting to discuss plans and expectations for the SMEE at least one day before arriving at the clinic. Task Force Forager personnel need to better bridge the gap between the centralized, top-down medical (hospital-based) hierarchy and the outlying primary-care clinics in these countries, which are staffed and run by non-physician primary care personnel. It is recommended that smaller multidisciplinary medical teams work side-by-side with local personnel within the community health clinics, instead of working at the main hospital. For example, in Kiribati, Task Force Forager providers worked with the two-person optometry team in community health clinics on two occasions. This proved to be rewarding and allowed for more interaction and mutual learning.
- Having the mission team personnel go to so many clinics for only a day or two is not the best way to foster genuine, meaningful working relationships with host nation personnel. A lasting impact requires more time. It should be thought of more in qualitative than quantitative terms. U.S. forces could build capacity by having small health outreach teams work with local clinical personnel for at least a week at a time.

**Issue: Internal Medicine Capacity Building is Limited**

**Discussion:** Some medical civic action program (MEDCAP) efforts would have required a significant investment of time. There was not enough time to develop an informed assessment of the host nation's health-care system. During the task force engagement, the team spent two-thirds of its time determining how to adapt the resources available in a way that would move the mission forward under the given circumstances.

A copy of the 2011-2015 Solomon Islands health strategy document, which provided insights into the current state of affairs, was beneficial before engaging in an SMEE at National Referral Hospital. It was learned that a draft version of the 2016-2020 strategy was in circulation, and called for priorities of decentralization of resources, increased penetration of health care into remote populations, and relocation of NRH. This provided a good contextual framework from which capacity-building planning could occur.

On the ground, it became clear that the center of gravity for NRH is its teaching mission. During week one, the host nation leadership provided a detailed plan of its teaching vision: provide a pipeline of 50 interns per year; embark on a two-year internship to build breadth and depth of clinical skills; then deploy the interns to remote areas of the country, putting a priority on prevention and health promotion, with treatment a lower priority. This appears to make sense in the context of the country's health-care and developmental problems.

As part of the SMEE, the internal medicine physician gave a well-received lecture on diabetes by tailoring the topic to the context of the Solomon Islands. This approach seemed to nest well with host nation protocols for treatment, and to meet the needs of prevention rather than treatment as the first line of defense.

The engagements at Good Samaritan Hospital were of the MEDCAP nature. Ninety percent of the effort was on treating mild/chronic illnesses. Emphasis was placed on teaching host nation nurses, since they were Task Force Forager's highest-level partners during this engagement.

**Recommendation:** Building capacity, incrementally or transformational, in a way that nests with the efforts of the host nation and NGOs (such as WHO) requires more prior planning. The pivot from MEDCAP to capacity building takes a deliberate planning effort and will happen gradually over future missions. The current planning and execution of the internal medicine SMEEs are similar to MEDCAP missions. Planning should be conducted along lines of effort that can continue to help build capacity and assist the host nation in sustaining new medical capabilities.

**Issue: Internal Medicine — Utilization of SMEs Needed Earlier in the Planning Phase**

**Discussion:** Given a very short planning timeline at the subject matter expert level (i.e., a few weeks in some cases from selection/notification of an individual to fill an SME position to mission execution), SMEs should be contacted in advance for general guidance and development of medical engagements in internal medicine.

**Recommendation:** Even if specific individuals are selected late in planning, SMEs with the experience and vision to provide advance planning guidance could be identified for each skill set. One ready source of SMEs could be the Regional Medical Command consultants for each specialty, who can identify talented individuals. Physicians with experience in the Pacific region, broad experience in internal medicine, and familiarity with other medical specialties would be good candidates for the predeployment site survey (PDSS) and as medical planners for future medical engagements.

**Issue: Improvement Needed in Advance Team Selection and Predeployment Training for Medical Stability Operations**

**Discussion:** In addition to cultural training before departure, time could be allocated to educate medical task force personnel on basic health-care issues for each country using readily available open-source information. An example is the *National Health Strategic Plan-The Ministry of Health and Medical Services, Solomon Islands Government, 2011-2015*, a joint Solomon Islands Government-WHO publication that lays out the organization, challenges, and strategic priorities of the country's health-care system. This is enough detail to allow task force medical personnel to conduct last-minute preparations that would have been helpful. From a medical standpoint, two main efforts are currently ongoing: the pilot residency program at the central hospital and a community-based noncommunicable disease screening program. PP15 could have made significant capacity-building contributions to both efforts, but the efforts were not mentioned by the Ministry of Health to ADVON personnel.

**Recommendation:** Allow more time for PDSS, and send a physician with broad experience including emergency medicine, inpatient and outpatient care, pharmaceutical use, intensive care, consultative medicine, and graduate/undergraduate medical education. Nominations should be made, but a prerequisite should include prior participation in a Pacific Partnership exercise or other humanitarian mission in the Pacific region.

**Issue: Dental Team Assessment of Host Nation Clinics Was Successful**

**Discussion:** When the dental team arrived in the Solomon Islands, assessments of the selected clinics slated for dental engagements were conducted. This streamlined activities and improved overall impact at the host nation clinics. This should be conducted by the ADVON team during the initial PDSS.

**Recommendation:** Continue to conduct dental clinic assessments for all future engagements. Ensure that the dental ADVON personnel arrive early to assess the clinic sites and confirm all dental engagements at least one week prior to execution.

**Issue: Review Dental Expectations with Host Nation Clinic Staff and Leadership**

**Discussion:** During several engagements, the host nation staff had a relaxed view in regard to keeping time schedules or fully appreciating the concept of working side-by-side during subject matter expert exchanges. This resulted in lost opportunities. Further, host nation providers seemed to be under the impression that the arrival of the task force dental team implied a vacation from seeing patients while task force members did the work. This is contrary to the concept of working side-by-side in a SMEE — a PP15 objective.

**Recommendation:** The ADVON team can assist by reminding the host nation of expectations to reduce lost opportunities. A welcome party with host nation dentists at the beginning of the engagement is also a good way to build a partnership and a relationship of trust. An incentive to keep host nation dentists fully engaged can be something as simple as a certificate of appreciation for participating in a PP15 engagement.

**Issue: Dental ADVON Assessment Required for Supply Requirements**

**Discussion:** During PDSS of various sites, the ADVON should determine whether any equipment shortages are hindering clinics' effectiveness. For example, the Mataniko clinic

was without an amalgamator. As a result, bringing capsules of amalgam and other associated compounds was pointless because providers could not mix the materials for use. It would have been beneficial to spend some of the funding on an amalgamator versus expendables; this would have improved the clinic's restorative capability.

**Recommendation:** ADVON or planning groups might benefit from early contact with host nation dental clinics to ascertain deficiencies in major end items, repair parts, types/models of dental chairs, and other equipment. Medical maintenance teams could acquire technical manuals and repair parts before arrival.

#### **Issue: Dental Infection Control/Sterilization Procedures Deficient With Autoclaves**

**Discussion:** Host nation dental clinics have serious deficiencies in infection control/sterilization procedures, especially with autoclaves. Host nation dental clinics could benefit from having an SOP and/or audio-visual aid such as a training video to cover critical steps in infection control and sterilization procedures. Further, host nation clinics are not conducting routine spore testing on the autoclaves, which increases the risk of improperly sterilized instruments.

**Recommendation:** Standard operating procedures on basic infection control and sterilization procedures should be introduced for host nation clinics. Training on sterilization techniques should be provided, along with sufficient spore testing kits.

#### **Issue: Effective Integration With Host Nation Dental Staff Is Beneficial**

**Discussion:** The 62nd Dental Team observed that dental clinic personnel (dentists, therapists, dental assistants, and other ancillary staff) in Kiribati, the Federated States of Micronesia, and the Solomon Islands often exhibited a sense of diffidence. Interaction with staffs was mostly limited to the delivery of care. Because PP15 dental engagements were brief, there was not enough time to form meaningful relationships; this presents a barrier to more effective exchange of ideas. Host nation staffs tended to become more open and receptive to communication when 62nd Dental Team members ate with them or interacted with them in a non-clinical setting.

**Recommendation:** Consider a more integrated approach by inviting host nation staff members to a meal or spend a day with them that does not always involve delivery of care. The ADVON might be able to coordinate a more integrated approach to the dental engagement, include funds to support a group meal, or organize a social event.

#### **Issue: Dental SMEE Was Successful in Kilu'ufi Hospital, Auki**

**Discussion:** The dental clinic at the hospital had one dental operatory and a dental resident who graduated from dental school two years prior to employment. The assigned dentist at the clinic was on leave for six weeks. A mid-level provider was available for the SMEE. One Task Force Forager dentist performed operative dentistry alongside the dental resident and mid-level provider in the clinic to demonstrate best practices, followed by three-hours of small group discussions (endodontic overview, restorative materials, and antibiotics). Task Force Forager dental assistants, in coordination with host nation dental assistants, reorganized the sterilization setup in a dedicated room.

Task Force Forager personnel also performed the following:

- Conducted train-the-trainer training for host nation dental assistants to conduct outreach training in outlying clinics.

- Worked with host nation ancillary staff to improve efficiency and standard practices in the clinic.
- Reviewed Level 10 maintenance on dental equipment.
- Organized and evaluated durable equipment and expendable supplies.
- Recommended precedence of new supply orders.
- Identified supplies requiring cold and temperature-sensitive storage and placed these items in proper locations.
- Developed SOPs for clinic operatory setup/breakdown and protocol for needle-stick injuries.
- Collaborated with host nation dental staff on the layout of the new dental clinic.
- Discussed future professional development for host nation providers and encouraged dialogue with colleagues at the National Dental Council to request additional support for the Malaita dental team.

The interaction with the dental staff at this clinic was better than in previous missions, partly due to the higher motivation of all the staff in Auki.

### **Recommendations:**

- Contact the senior dentist prior to the mission to circumvent prearranged leave time or absences to ensure full participation by pertinent personnel in the SMEE.
- Request pictures of the clinic's condition and a detailed list of supplies or equipment.
- Encourage the host nation dentist to advocate for current and future dental clinic needs: fixing or replacing broken equipment, such as the amalgamator; new or refurbished dental chairs; X-ray apparatus; and basic supplies.

### **Issue: Abbreviated HBB Course Was Well-Received at Kilu'ufi Hospital, Auki**

**Discussion:** An abbreviated Helping Babies Breathe course was conducted by pediatric medicine personnel with two instructors and 13 nurses. The content of the two-day course was compressed into a 2½-hour course using neonatal mannequins and supplies. The audience seemed to grasp the concepts and the course was well-received, with good class engagement.

### **Recommendations:**

- Ensure that there is adequate room for the instructors and the participants.
- Ensure that there are enough mannequins and kits available for the training.
- Ensure that adequate time is allotted. There was miscommunication with the nursing education coordinator, who was unaware of the planned training that day and had already scheduled mental health training for the same nursing audience, forcing the dental team to further compress what was planned as an abbreviated one-day course. Although the concepts were well understood, this abbreviated course did not allow for the implementation of the train-the-trainer concept, nor did it allow for sufficient rapport building and discussion of cultural practices and facility capabilities to further enhance and reinforce the course principles.



### **Issue: Pediatric Resources Were Unevenly Distributed at Host Nation Hospitals**

**Discussion:** This hospital is well staffed with a team of several “consultant” pediatricians, pediatric registrars (who are responsible for the day-to-day care of inpatients), and rotating interns. During the two days at this facility, Task Force Forager pediatric providers worked with the interns and registrars to assist with teaching rounds, participated in didactics, and cared for a wide range of cardiac patients in an outpatient referral clinic. Given the number of consultant pediatricians employed by the hospital, this group did little direct patient care. This was in direct contrast with time spent at the Kilu’ufi Hospital in Auki, Malaita, which did not have any pediatricians on staff. Instead, this hospital relied on its general surgeon (and, likely, other physicians) to care for pediatric inpatients, referring more complex cases to NRH.

#### **Recommendations:**

- The host nation should be encouraged to balance limited personnel resources. At least one consultant pediatrician should work at Kilu’ufi Hospital, which will improve its capacity to provide pediatric inpatient care without the expense and burden of sending patients to Guadalcanal. This could be accomplished with a full-time position or as a rotating pool of current staff members based at Honiara.
- Two days is not sufficient time to adequately build relationships, assess ways to contribute to capacity building, and then execute. Also, the days that task force providers spent at the hospital were Monday and the following Friday, making it difficult to have any continuity. Allowing for longer missions will provide opportunities for relationship building and, ultimately, increased capacity building. When possible, build the schedule to allow for more continuity with these types of missions.

### **Issue: Pediatric Medicine SMEE Requires Managing Expectations**

**Discussion:** This event was focused on providing direct patient care at a facility typically staffed full time by nurses, with physicians only two days a week. Although Task Force Forager providers were scheduled for this engagement on the two days in which physicians were supposed to be present, one did not show up on either day and the other had very limited interactions with the team. Direct patient care was conducted by task force providers using hospital supplies, with assistance by the nurses. While some of the nurses were very involved and open to exchange with providers, others were uninterested and unavailable to assist throughout much of the day.

**Recommendation:** Expectation management regarding the purpose of Task Force Forager’s visit is important. While the ADVON team did its best to communicate this to the host nation, the history of direct-care engagements has clearly colored host nation expectations. However, as the nursing staff conducted much of the patient care, these are the providers we should be attempting to partner with for engagements. If task force providers could plan to work alongside the nurses on a typical workday instead of a day when their patient load triples because of Task Force Forager’s presence, much more quality exchange of information could be accomplished.

### **Issue: Basic First Responder Course Medical Standards Conflicting (Rove Police Academy)**

**Discussion:** With the help of four police instructors, Task Force Forager medics were briefed on the country’s medical standards. They were taught the Australia/New Zealand way of CPR, which conflicts with the U.S. method of medical response. Due to this conflict of interest, the team members from New Zealand, Australia, and the United States agreed to teach the Australian/New Zealand standards as the primary standard, and the U.S. medical response was taught as a support/alternative method.

**Recommendation:** Fully identify and understand the medical standards of the country before introducing a different standard. Australian/New Zealand counterparts embedded in the team proved to be beneficial in teaching medical topics to community members who possessed little medical knowledge.

### **Issue: Police Instructors Proved Beneficial (Rove Police Academy)**

**Discussion:** During the Solomon Islands mission, there were four police officers and one student who exhibited outstanding instructor abilities. The four officers completed a three-week first responder course a month before the PP15 engagement, which provided them with more medical knowledge than was available in the Basic First Responder Course. Task force medics asked the police officers and one knowledgeable student to transition from student to instructor status to assist with course instruction. Medics provided encouragement and spot corrections as needed until the newly assigned instructors felt confident in the subject matter.

**Recommendation:** Identify potential trainers or instructors early in the course and integrate them into the instruction. As they gain confidence and experience in teaching, long-term capacity is enhanced.

### **Issue: More Time Is Needed for Basic First Responder Course**

**Discussion:** With 54 students, the Basic First Responder Course was separated into two one-day classes. With 27 students each day, the duration of the class was still too short. Not all people are fast learners, and one day for a compressed first-aid course was not enough time to provide thorough hands-on instruction. It became apparent that many students needed more time to learn when their performance was tested in a simulated MASCAL event.

**Recommendation:** The course should be at least two days in duration to provide more time for students to learn and practice the required skills. Most of the students retained the techniques when practical (hands-on) training was repetitive. Additionally, practice drills, similar to what is experienced in a MASCAL, should be run several times prior to the actual MASCAL simulation.

### **Issue: Basic First Aid Course Was Beneficial**

**Discussion:** Participants required training on basic first aid and basic life support to assist in a MASCAL situation. Training included head and spinal immobilization techniques, application of splints, wound dressings, treatment of bleeding/hemorrhage, and burn first aid. The two-day course covered lectures and practical exercises, to include use of various improvised items found locally that responders could use when tourniquets, bandages, and other medical items were not available.

**Recommendation:** Teachers were expected to aid in the MASCAL event; a four-day Basic First Responder Course program would have been beneficial. Also, collaboration with the police and other first responders prior to the event would have made them more useful. Training should be given to more communities to prepare for a MASCAL.

**Issue: Participation at Talakali Rural Health Clinic Complicated by Faulty Communication**

**Discussion:** Talakali Rural Health Clinic is on the eastern side of Auki and is managed by one nurse, who also serves as the village midwife. The clinic had examination rooms and a delivery room for patients. There were no hand-washing stations available, but there were alcohol hand sanitizers. The villagers should be reminded of the medical team's purpose — information exchange and reinforcing medical capabilities. For example, one task force provider was able to correct the misuse of processing the rapid malaria tests. A total of 24 patients were seen on the first day, most of them children. A total of 24 antenatal women and 12 general patients were seen on the second day. This clinic is an hour from the hospital, and many of the patients walked miles from their outlying villages in anticipation of medical care from PP15 medical personnel.

**Recommendation:** Provide better communication to villagers of the task force visit's purpose. The second day went more smoothly with the addition of a second provider; this improved communication with patients and allowed for more one-on-one training without compromising patient flow and efficiency in this busy clinic (made busier by Task Force Forager presence, due to misconceptions about why the task force was there).

**Issue: Mental Health SMEE Requires Better Collaboration at Kilu'ufi Hospital, Auki**

**Discussion:** The mental health team met with the director and senior nurses to provide two workshops to fill a mental health gap and discuss a high-end SMEE to include cognitive behavioral therapy, treatment of post-traumatic stress disorder (PTSD), and suicide prevention. Appointments with the host-nation provider (a psychiatric nurse) for six mental health patients were conducted in the conference room. The most common disorders were schizophrenia, bipolar illness, and substance abuse. Nurses provide 20 to 30 minutes of mental health counseling on Mondays, Wednesdays, and Fridays. The other days are devoted to nursing care. Families also receive training to care for a mentally ill family member. One mental health coordinator is provided for each of the nine provinces to train outreach programs. A visit to the local prison also was conducted to evaluate inmates with mental health disorders.

The mental health team gave presentations on alcohol assessment of medical patients and counseling skills (do's and don'ts for mental health providers). Fifteen nurses and behavioral health team members participated. The team also provided training workshops with five psychiatric nurses. Topics included behavioral treatment for narcolepsy, sleep apnea, parasomnia, insomnia, and PTSD. Two treatment manuals for sleep disorders and PTSD, as well as videos on assessment measures for PTSD, were available.

**Recommendations:**

- Provide better communication through the hospital to the mental health nurse regarding the arrival of the mental health team.
- Be prepared to bring psychotherapy literature and personnel with advanced clinical skills.
- The only psychiatrist for Auki should be informed of the mission and purpose of the information exchange in a collaborative manner.
- Continue to build a relationship with the host nation provider, who can contribute to recommendations.

- Confirm the conference room with the nurse educator to avoid a scheduling conflict.
- Spend two weeks with the Auki mental health providers, who serve as the central location for mental health.
- Provide pharmacological guidelines to the host nation providers, who have limited access to this information.
- Provide guidelines on basic psychotherapy and cognitive behavioral therapy.

### **Issue: Emergency Medical Care of Mission Personnel Lacked Coordination**

**Discussion:** Upon arrival at the U.S. Naval Ship *Millinocket*, the emergency medical component volunteered to care for all embarked forces. Often, care of troops detracted from host nation medical care or SMEEs. For example, injured and ill Soldiers required that providers prematurely end engagements to provide nonemergent care of troops. In addition, there were medical supplies that were ordered, but not in the tri-walls, such as the rabies immunoglobulin and the Binax Now malaria test kits. Rabies immunoglobulin had to be reordered, but it took more than six weeks for it to be procured by the contractor.

**Recommendation:** Future missions must identify troop medical providers early (months prior to deployment) and create a specific tasking for a physician's assistant or senior medic to act as primary caregiver for embarked forces. This enhances proper planning, Class VIII, and pharmacological ordering, and prearranges for troop medical care by a primary provider, allowing SMEs to focus on Pacific Partnership goals.

### **Issue: Emergency Medicine SMEE Requires Predeployment Site Survey at NRH, Honiara**

**Discussion:** The overpopulated, sparsely staffed emergency department (ED) at NRH provided a wealth of opportunities for SMEEs. However, absent a detailed PDSS, the ED team was limited in delivery of useful knowledge. NRH uses its minimally trained physicians as rotating coverage for the ED. These physicians are generally the U.S. equivalent of an intern with a foreign medical education. They are not equipped to operate an ED alone. This creates an audience of willing learners who are eager to absorb any proffered expertise. During the two weeks of the PP15 mission in Honiara, a contract physician from Australia was working the day shift in the ED, Monday through Friday. Therefore, the hospital ED was staffed by a first world-trained physician and there was little in the way of beneficial subject matter exchange. Task force physicians attempted to teach local physicians (when present) as much as possible during this time. Unfortunately, a recurring theme in most of the EDs was limited access to local physicians and their varying degrees and/or lack of training, triaging, and treating emergencies. As a result, more direct care was delivered and less capacity building and less long-term impact.

**Recommendation:** The PDSS is crucial in establishing key players already on ground and identifying capacity-building opportunities. ADVON or PDSS personnel must carefully assess the level of education and training of those working in the ED. Had the educational status of host nation ED providers been known, the task force team could have developed and implemented tailored diagnostic and treatment algorithms to guide these minimally trained providers in delivering high-quality care despite their limited resources and knowledge.

### **Issue: Basic Life Support Training for Nursing Staff Lacks Coordination**

**Discussion:** Task force nurses taught 25 local nurses, nurse aids, and hospital cleaners a Basic Life Support refresher course. The nursing educator was unaware of the plans for the training and had no exact number of attendees. As a result, the training room was slightly crowded, but able to accommodate all participants and instructors. All those trained received certificates of completion. Meetings were conducted with the nurse educator to determine future needs and the support required. Discussions were collaborative, and the task force provider was able to determine what the educator and her instructor were able to provide staff within the resource constraints of the hospital and support limitations from NRH, Honiara.

The following summarizes the main points:

- The nurse instructor provides local training as determined by canvassing staff, but poor attendance due to staff shortages plagued the program. Other professional development training programs, however, are provided by NRH, Honiara (e.g., noncommunicable diseases, tuberculosis, child health).
- The nurse educator—
  - Wished to implement competency framework developed by the nursing council, but was unsure how to do accomplish the implementation.
  - Held continuing professional development certificates for staff on file, but also wanted to establish an ongoing record of all staff training.
  - Required guidance to compile and maintain a nursing manual and/or Code of Health Standards/SOP, which was not currently available.

The OR has no dedicated post-anesthesia care unit, and patients were not provided recovery measures, post surgery, as is common in New Zealand and the United States. There is one OR bed, an area for minor operations (just off the walkway), and a small pre-operation/post-operation area. According to the OR nursing staff, there is no SOP or protocol for patient recovery procedures. The patient is extubated in the OR by the anesthesiologist, moved out of the OR, and collected by the ward staff almost immediately. Post-operative monitoring is done in the ward.

During PP15, task force nurses conducted hands-on training for local OR nurses by observing surgical procedures, working alongside the anesthesiologist, and assisting with the transfer of surgical patients to a designated post-operative area. Task force nurses monitored patients' recovery in accordance with U.S. standard practices, and emphasized the importance of having medical tools such as a simple thermometer and mobile suction apparatus available at all times.

**Recommendation:** The ADVON team could assist in the future by providing a point of contact to the assigned nurses on the mission. Ensure adequate space for the anticipated number of participants for the class. Continue with the same ratio of instructor to students.

### **Issue: Lack of Communication Hindered Biomedical Equipment Technology (BMET) Repairs and Assessment of Medical Equipment in Honiara**

**Discussion:** The BMET team fixed or verified the correct function of 33 different medical devices valued in excess of \$3.7 million at NRH's emergency, radiological, medical, and pediatric wards, as well as the public health laboratory, Mataniko Dental Clinic, and GSH. An

additional 11 pieces of medical equipment also were identified in need of replacement. Without identifying these defective parts, the medical equipment would remain inoperable. Five host nation biomedical staff members received training on scheduled maintenance of several medical devices, such as defibrillators and infusion pumps. Recommendations were suggested on scheduled maintenance procedures, shop organization and cleaning procedures, and internal and external procedures when dealing with both medical equipment and hospital staff.

**Recommendation:** There was a lack of communication from the PDSS to the arrival of Task Force Forager personnel. Additional U.S. BMET personnel should be included in all PDSS activities to identify and order parts ahead of time. This would allow more time for user-level training with Pacific Partnership and host nation forces, without sacrificing time waiting for parts.

## Chapter 4

### Republic of the Philippines

Pacific Partnership 2015 (PP15) Task Force Forager was led by the 30th Naval Construction Regiment (NCR). The 30th NCR has experience in joint operations, including two previous Balikatan exercises and Pacific Partnership 2014. The knowledge and operational experience of the 30th NCR provided necessary strategic oversight for a multidimensional task force such as Task Force Forager.



Figure 4-1. The locations of PP15 engagements in the Philippines.

#### Medical Subject Matter Expert Exchange (SMEE)

Task Force Forager SMEE personnel worked many hours alongside their host nation counterparts, who included civilian health-care providers and staff as well as Armed Forces of the Philippines (AFP) providers and staff. The following SMEEs were conducted during PP15:

- Dental, optometry, and nursing; Ministry of Health, San Fernando City (SFC)
- Dental/oral maxillofacial surgeon; Ilocos Training and Regional Medical Center (ITRMC)
- Emergency doctor; ITRMC
- Blood safety; Bacnotan and Balaoan, La Union, Philippines

- Blood safety; Red Cross, SFC and Naguilian
- Preventive medicine and infection control; ITRMC
- Biomedical equipment technician (BMET) SMEE/Operations, ITRMC
- BMET SMEE/Operations, Poro Point Naval Station
- BMET SMEE/Operations, San Gabriel
- Pharmacy SMEE/Operations, ITRMC
- Community Health Outreach Teams (CHOTs)

CHOTs visited six villages, known as barangays, in the vicinity of SFC and San Gabriel: Bangbangolan, Daking, Lipay Proper, Pao Sur, Poro, and Saoay. These teams were specifically requested by the host nation and were primarily direct-care dental and medical civic action program (DENCAP/MEDCAP)-type events. In addition to providing care to villagers, Task Force Forager medical teams contributed to developing their counterparts' skills and knowledge, thereby sustainably increasing capacity. Due to severe rain, one of the two days planned for the CHOT in Daking was canceled, and the CHOT team was rerouted to other engagements. Tremendous credit rests with the agility of operations cells within the task force, advanced echelon (ADVON), and host nation clinic staffs. Overall, 817 patients were treated by medical providers by the CHOTs. (See Appendix D for an in-depth statistical report.)

### **Medical Outreach Summary**

The task force medical team consisted of internal medicine personnel, an emergency doctor, a pediatrician, a family medicine nurse practitioner, and a physician's assistant (PA). Additionally, this core medical team was augmented by various host nation physicians. Medical events included various CHOTs, a Health-care Leadership Course (36 trained), Humanitarian Assistance and Disaster Management Training (40 participants), Helping Babies Breathe (HBB) Course, and Basic Trauma Course.

### **Basic First Responder Course (BFRC)**

The BFRC trains first responders and novices in initial care, and provides an immediate impact on disaster readiness and overall medical responsiveness in host nation communities. Task Force Forager instructors identified top performers and recruited them to be instructors, and evaluated each student's skills before granting certification. Two BFRC courses were taught in San Juan and Pangasinan, where students learned about the cardiovascular, musculoskeletal, and respiratory systems; injuries of the head, neck, and back; types and treatments of burns and bleeds; splinting; patient assessment; and communication and documentation. With assistance from the Philippine Red Cross and La Union Search and Rescue Team, students demonstrated triage and first-aid skills through mass casualty scenario exercises. A total of 367 students were trained.



## **Blood Safety Training**

Blood safety training was provided to 72 students and staff members at the ITRMC. Blood safety SMEEs were conducted with the Red Cross in SFC and the Naguilian Department of Health, with a focus on blood transfusion reactions and donor recall. In addition, hands-on training using “tube testing” techniques was conducted. Blood safety SMEEs also were conducted at Bacnotan and Balaoan district hospitals with mock inspections to assess the hospitals’ current conditions using the health department licensing checklist. Deficiencies were communicated to laboratory technicians and the chief hospital administrators. The blood team also visited the Philippine Red Cross to observe a blood drive and visited the Naguilian district hospital, where lab equipment was assessed for safety and proper functionality. The AFP medical technologist was on site and proved to be a beneficial source of knowledge of Philippine practices. Together the AFP medical technologist and the blood team collaborated with each site to help identify weaknesses and develop a plan to improve deficiencies.

## **Pharmacy**

The pharmacy team conducted a SMEE with the host nation pharmacy staff at the ITRMC. Topics discussed included infection control; the importance of a clean and sterile work environment; and pharmacy security with restricted access, controlled medication storage, and fire evacuation plans. The pharmacy team worked with the supply section on streamlining the medication ordering process and conducting inventory to determine stock levels. Overall, the ITRMC pharmacy staff is well-educated and displayed knowledge of medication. The biggest area of improvement identified was the need for an automated program.

## **Veterinary Outreach Summary**

The task force veterinary team provided a variety of services, including professional lectures, vaccination, and deworming. Some procedures could not be conducted for lack of approval for certain medications. The following is a list of engagements:

- Professional lectures, Don Mariano Marcos Memorial State University (DMMMSU) College
- Surgery mission, Ortega Gym
- Vaccination and clinics at Bacnotan, Bangbangolan, Bunga, Naguilian, and San Gabriel

## **Lectures**

The veterinary team discussed the following topics:

- Emerging zoonotic diseases, foot-and-mouth disease, and management of animals during natural disasters
- Necropsy wet laboratory with post-mortem examinations on a duck and piglet
- Rabies prevention and leptospirosis, in coordination with the head nurse of the rabies prevention program in SFC.

Overall, eight lectures were presented, and 474 personnel were trained.

### **Slaughter Inspection**

The team inspected a slaughter facility and observed the active slaughter of bovids and swine. The inspection was followed by lectures on humane slaughter, carcass inspection, and techniques for stress reduction during slaughter. The lecture was attended by butchers, university veterinary students, and AFP and SFC veterinary officials.

### **Surgery Mission**

At a field hospital in the Ortega sports complex, the veterinary team, accompanied by two AFP veterinarians, two AFP technicians, and eight veterinary students, conducted six neuters, one spay, 10 vaccinations, five snap tests, and six deworming procedures. Additionally, the following procedures were conducted in Bangbangolan and Bunga: 215 dogs and five cats were vaccinated and dewormed, and 162 cows/water buffalo and 100 goats were dewormed and given vitamin injections. Finally, in coordination with AFP and the SFC provincial veterinary office, the team conducted the following in San Gabriel: administered rabies vaccines and dewormed 259 dogs, and dewormed and administered B-vitamin complex to 67 cattle/water buffalo. Overall, a total of 1,449 veterinary procedures were performed.

### **Vaccination and Clinic**

In cooperation with the Provincial Veterinary Department and DMMMSU Veterinary Institute, the team vaccinated 93 dogs and dewormed 16 goats, 43 cows, and one water buffalo in two municipalities.

### **Nursing Outreach**

The task force nursing team conducted staff education and training at ITRMC and a symposium at Lorma College. The nursing staff and emergency department's PA provided didactic lectures to 72 nurses at Lorma College. Classes were conducted on triage, trauma management, primary and secondary surveys, team concept of trauma, and basic life support (BLS) techniques. A nursing symposium also was conducted at Lorma College and had 71 nurses in attendance. Topics at the symposium included the following:

- Cardiovascular emergencies
- Diabetic retinopathy
- Pediatric emergencies
- Infection control

### **Helping Babies Breathe Course**

The HBB course was taught by the pediatrician and built on the concept of training-the-trainer about newborn resuscitation in resource-limited settings. The course was conducted over an eight-day period and included five completed courses; 80 students became master trainers. One course was taught independently by four host nation instructors with Task Force Forager personnel observing. The medical team is confident that the principles taught in this class are truly sustainable and could quickly be disseminated to all medical personnel involved in

delivering babies in or out of the hospital. Task force medical personnel provided additional HBB kits to the mayor and head physician in San Gabriel with whom they also discussed future training courses in the region.

## **Dental Outreach**

Task force dental teams were included in all six CHOT events, providing direct patient care and augmenting existing clinical services. The host nation provided at least one dentist and one dental assistant during the dental procedures. Primary services included preliminary dental exams, usually followed by exodontia. Due to logistical constraints and electrical power limitations, only a few CHOTs offered restorative services. The CHOTs at Bangbangolan and Saoay also resulted in improvement to instrument sterilization techniques. Overall, a total of 432 dental patients were treated at the CHOT events.

## **BMET SMEE**

The BMET team conducted SMEEs at Bacnotan District Hospital and San Gabriel Health Clinic. The team identified various safety hazards at both locations and worked to repair equipment, including a dental chair and pathology laboratory equipment.

## **Preventive Medicine**

Navy Environmental and Preventive Medical Unit 6 conducted operations across the SFC area, working principally from the Forward Deployable Preventive Medicine Unit (FDPMU) Complex, which was constructed on the pier. The team held meetings with 17 host nation counterparts, three AFP counterparts, and one Veterinary Corps officer, and developed a schedule of events and tasks. Also, a tour was held for the U.S. 7th Fleet surgeon to include discussions on the humanitarian assistance/disaster relief and global health engagement missions.

Overall, a wide variety of training was conducted by the preventive medicine team, including the following:

- Pupal surveillance for dengue vectors
- Laboratory capabilities of the FDPMU microcomponent
- Infectious waste management and blood-borne pathogens
- Chemical properties and hazards
- Hands-on training of chemical detection equipment
- Drinking water safety
- Public health disaster preparedness
- Solar disinfection of water
- Medical entomology
- Respiratory protection and fit-testing
- Rabies
- Leptospirosis
- Influenza-like illnesses

In total, 131 Filipino public health professionals from 19 municipalities within La Union province were trained. The team also ran several samples on the film-array system. One patient, who was sample tested on a film array, was detected with cholera. In response, the team microbiologist began a case contact investigation in conjunction with the host nation regional disease surveillance team. Additionally, the environmental health team toured San Gabriel's water treatment area with 16 public health and water testing officials; educated officials on treatment and delivery methods for safe potable water; and discussed local water policy and testing parameters.

The environmental health team also engaged 17 local public health sanitarians in conducting food-service inspections of six restaurants and facilities. Findings were discussed and recommendations were made for improvements within each facility. Additionally, the industrial hygienist and 37 local public health professionals conducted a safety inspection at a local oil/gas fueling depot, and the preventive medicine chief trained 73 students (covering 19 municipalities) on World Health Organization (WHO) procedures for making bulk hand-rub sanitizer.

### **Project HOPE (Health Opportunities for People Everywhere)**

Project HOPE (a global health education and humanitarian assistance organization) visited the ITRMC and met with the administrative, information technology (IT), and training staff. Training for IT staff included creating policies for electronic communication and presentations by hospital staff; in addition, the training department received training on Survey Monkey (a website used to conduct surveys electronically versus paper form). Over the course of the engagement, Project HOPE also taught several classes to 116 personnel on the use of Microsoft Excel and conducted a leadership development course, Leadership Versus Management, to 70 members of the hospital managerial staff.

### **Future Medical Opportunities**

When planning and coordinating for future Pacific partnership medical SMEEs, consider the following:

- **Time management.** Hospital clinics should keep appointments to a minimum so host nation providers may participate in the engagements. Alternative dates for leave should be encouraged, and staff should be prepared to work full days. To maximize participation, clinics should notify the community about coming engagements.
- **Reconnaissance.** ADVON should include a representative from each functional area, including BMET, to perform site reconnaissance to identify limitations and develop supply needs.
- **Training.** Hands-on training is more effective in SMEEs and training events than PowerPoint presentations.
- **Flexibility.** ADVON planning should account for contingencies and retain agility in the execution of the mission; an example was diverting a veterinary surgical engagement to a SMEE.
- **Mental health.** Teachers who attended the Mental Health Symposium requested more than eight hours of coverage, and specifically requested training on autism, attention deficit hyperactivity disorder, learning disabilities, and recognizing mental health symptoms in students.

- **Optometry.** Future missions should bring eye models for education, as well as distance and near charts to train and to give away at the optometry SMEE. Because glaucoma appears to be more common in the Philippines, future teams should bring education posters on cataracts and glaucoma during senior citizen health fairs and seminars.
- **Dental.** Teams for CHOT events and community health engagements (CHEs) should consider bringing dentiforms, brushes, toothpaste, floss, and basic oral hygiene kits to support oral hygiene programs, especially if the dental team is not fully engaged with direct care during the events. Other considerations include the following:
  - Patient expectation management at the CHOT events is important. Prospective patients must understand that only the most emergent teeth will be treated, and as many of those cases as possible should be treated.
  - Cold sterilization proved to be a much more effective method for high-production exodontia in direct care DENCAP-style missions.
  - Consider bringing more “301” elevators and syringes.
  - The autoclave proved to be a heavy instrument that slowed down exodontia.
  - Bring enough gloves for the team and host nation providers to utilize so there is little reluctance to replace gloves with each patient.
  - Headlamps proved to be essential for exodontia because many of the clinics were not brightly lit; ensure that enough batteries for the duration of the mission are available.
  - Develop packing lists early for tough boxes.
- **Veterinary.** All medications require preapproval from the Department of Agriculture, in addition to site inspections after approval. Have lot and serial numbers on hand. For future missions, focus on village visits to increase herd immunity for rabies. Flea, tick, and heartworm preventives are uncommon and unnecessary. Ehrlichia and anaplasma, however, are common. This is a good lecture topic for the next mission, emphasizing the cost to treat the disease, shortened lifespan, and zoonotic nature of the diseases compared with the cost of prevention. For future missions, the veterinary team must ask whether each animal is pregnant or lactating.
- **Preventive medicine.** Future operations should include the following:
  - Follow-up activities should emphasize continued training of food-safety standards for employees and managers.
  - Certification of all food establishments should be verified during each food facility inspection.
  - Water testing capabilities could be improved by lengthening the time in port and testing for chemicals in drinking water.

- The drinking water treatment area could be improved by implementing filtration and a sedimentation process prior to chemical treatment of water.
- Provide a facility with daily chlorine residual testing to ensure that adequate chlorination is being conducted prior to leaving facility.
- Focus should be on proper disposal of infectious and hazardous waste streams, recycling programs, wastewater discharge, and general refuse for industries/businesses and residents. Safety inspectors should have sound-level meters, noise dosimeters, air-quality instruments, and other health and safety equipment. In addition to equipment, initial and refresher training programs are needed to keep safety inspectors abreast of changes to health and safety policies, practices, and new technologies to keep the workforce safe.
- More technical lectures on topics such as new diagnostic/laboratory methods and disease surveillance techniques are recommended.
- **Nursing.** In the future it would be useful to have native speakers included on the Pacific Partnership team in addition to AFP providers and their staff, who assisted by providing common experiences as military providers.
- **Pharmacy.** For future operations, it may be necessary to have the pharmacy technician (who is not being accompanied by a pharmacist) offer instruction before clinical operations begin, to gain the trust of the host nation personnel. Otherwise, the technician must be prepared for the challenge of establishing rapport while trying to complete the mission.

### Lessons Learned

#### **Issue: Focus Should Be Placed on Leadership and Innovation**

**Discussion:** What the countries clearly need are useful ideas and practical leadership training to make the most of available resources, in the context of geography, culture, and vision. Pacific partnerships are too focused on resources. As a result, money is spent on “things,” which often are poorly matched to local needs and have a short-term impact, at best. Instead, Pacific Partnership missions should become a resource for ideas and leadership.

**Recommendation:** Pacific Partnership missions should shift from resource/labor-intensive engagements to ideas/teaching-intensive engagements. Senior officers who have multicultural competence, innovative ideas, and proven leadership track records should pair with junior officers, who bring potential longevity, energy, and thirst for knowledge. This essentially is a mentor-learner model for Pacific Partnership staffing. Time aboard the vessel and during travel should be utilized as a floating classroom/learning environment. Staffing selection should be under a competitive system. This requires a different type of planning — a change in focus from centralized planning requirements. Instead, early mission focus should be on selecting staff members based on nominations, review of resumes for experience, and what prospective staff member plan to accomplish (i.e., research, teaching, training, assessment, etc.). To facilitate implementation of this change in focus, create a formal position description for each proposed staff/mentor position.

**Issue: CHOTs Need the Appropriate Resources to Accomplish the Mission**

**Discussion:** The CHOT concept was especially well-suited to the Philippines, since the villages are cohesive units with local government and services in proximity. However, there was only about a 20 percent match in terms of what was needed and what was on hand in the mission bay of the U.S. Naval Ship *Millinocket*. The problem of medication mismatches was more significant. No advance assessment of national or local formularies or actual needs was made in order to determine what supplies and medications should be on hand. This significantly degraded the mission impact.

**Recommendation:** Municipal health officers expressed interest in developing their own version of a CHOT, with caravans visiting the villages. They want the caravans to evolve into self-sustaining community events. Future Pacific Partnership engagements with these health would be beneficial in mentoring them through the process of creating a vision, forming stakeholder teams, and using project management and leadership techniques that can move the concept from pilot to broad implementation.

**Issue: Pediatrics Train-the-Trainer Efforts During Medical Courses Were Challenging**

**Discussion:** Overall, five courses were taught, including three utilizing the train-the-trainer concept. Eighty host nation providers (to include nine from the AFP) were trained and 20 students were observed teaching. Conducting the courses in the Philippines was a challenge because of unexpectedly high enrollment.

**Recommendations:**

- Despite the number of host nation personnel who went through the training, sustainment remains a challenge. Follow-up visits should be conducted at six-month intervals to train another core group of trainers or to offer quality control/course audits of existing instructors. (This could be achieved in a one- to two-week visit, if coordinated properly in advance.)
- There should be a single point of contact for enrollment purposes among the ADVON because most issues stemmed from one person making commitments to AFP personnel. Regardless of the country, the ideal course numbers for HBB are six to eight in the initial class. Subsequent trainings should aim for a 2-to-1 ratio of students to instructors with a target class size of 12 (with six instructors).
- If parallel follow-on courses are planned, a sufficient number of instructors must be guaranteed. In future planning, continue to stress that those unwilling or unable to commit to a full four days of instruction will be booked into the final two days of the class (for which there will be no immediate follow-on course); others should be preferentially allowed into the earlier iterations to serve as instructors. This is nonnegotiable — if students cannot clear their schedules to return, they should not be placed on the class rosters.

### **Issue: Supplies for Helping Babies Breathe Course Were Limited**

**Discussion:** Ordering the correct supplies is key. HBB kits should be purchased through Laerdal Medical (the company provides discounted purchases for areas with high rates of neonatal mortality) or the American Academy of Pediatrics. The “Simply NRP” (neonatal resuscitation program) kits are not the correct ones and do not include equipment suitable for patient care.

(**Note:** These kits are actually more costly than the HBB kits.)

**Recommendation:** Each student should receive his or her own HBB kit plus an additional one to pass on to a future student. When this is not possible, create basic resuscitation kits of a penguin suction and neonatal Ambu bag (also available from Laerdal, but not the American Academy of Pediatrics) to distribute at the end of training. Additionally, when conducting multiple classes with limited kits, students should not receive kits until after they teach the course to ensure that there are enough to conduct all scheduled trainings.

### **Issue: HBB and Its Target Audience Are Key to Success**

**Discussion:** The quality of the initial points of contact and the first class of trainees seems to be the primary key to success. It is ideal to begin training aimed at those with more resources who have intimate knowledge of the host nation health-care system. These students are able to grasp the intent and vision of the program and have the commitment to enable distribution of the course to those who are the true target audience. The target audience for HBB should be those delivering babies in resource-limited settings.

**Recommendation:** Target hospital physicians at the level below the regional medical center, as these physicians may be “closer” to the remote facilities and more capable of furthering the training in these areas.

### **Issue: Pharmacy SMEE Requires Preplanning**

**Discussion:** A pharmacy SMEE was well-organized, and an abundance of information was shared. However, the pharmacy team should have been assigned to help at the CHOT event versus the pharmacy SMEE. In general, there seemed to be a lack of communication for the medication needed at each location.

**Recommendation:** The prescriptions for the CHOT should be preplanned. The ADVON team should include pharmacy personnel or a representative in the site reconnaissance, mission analysis, and supply requests needed at the various CHOT sites.

### **Issue: Avoid Scheduling Resource-intensive Engagements at End of Mission**

**Discussion:** The class for the Basic Life Support course was the largest, at more than double the normal class size. Supplemental instructors and volunteers were added to assist in teaching. However, due to the volume of students, the class ran later than expected, causing delay and stress in preparing for departure.

**Recommendation:** Avoid scheduling engagements on the day of departure without adequate planning and resources, or conflicts may result. Front-loading the mission with heavy engagements and scheduling SMEEs later will reduce administrative and logistical burdens.



**Issue: Electrical Power Lacking in Philippine Health Clinics**

**Discussion:** After the power converter for the steam sterilizer was plugged in, it was discovered that the Saoay Clinic lacked sufficient power to effectively run the 1,500-watt autoclave machine. To run the autoclave or any high-wattage equipment, a generator is required. Also, the Bangbangolan Clinic had two-prong outlets, precluding the use of the three-prong power converter to support sterilizer training.

**Recommendation:** Utilize a 5 kilowatt generator or greater to accomplish medical mission requirements. Additionally, ADVON should test all power converters to ensure compatibility between purchased converters and power receptacles in the various clinics. Adaptors must be purchased accordingly.

**Issue: Parental Consent Absent to Perform Treatment on Minors**

**Discussion:** At a CHOT event at an elementary school in Daking, a host nation dentist encountered a child who was to undergo an extraction but did not have a parent present or written consent for the procedure. Under those circumstances, the child could not be treated.

**Recommendation:** Ensure that all pediatric patients have a parent present or written permission to perform a requested procedure.

**Issue: Having Two Technicians Per Dentist Is Optimal**

**Discussion:** Overall, the dental team found that productivity is higher and operations work best when there are two dental technicians or assistants per doctor instead of just one, or when a floater assistant can work between two dentists who have an assigned assistant for support.

**Recommendation:** When possible, build dental teams to have a floater assistant between two dentists.

**Issue: CHOT Congestion Hindered Treatment**

**Discussion:** Overall, crowd control was lacking and the congestion of patients in the immediate area of dental treatment was intense. The noise was so loud at times that it hindered communication with patients.

**Recommendation:** Host nation personnel should prepare for large patient turnout and plan to conduct crowd control by requiring patients and family members to remain outside of the clinic area until treatment.

**Issue: Cross-Training Dental Assistants Impacts Mission**

**Discussion:** The PP15 dental team cross-trained host nation dentists and dental assistants to perform multiple tasks associated with the MEDCAP/DENCAP/CHOT/CHE missions. This provided an easy transition of work depending on how the engagement developed. The ability to adjust seamlessly to various jobs is enhanced by having everyone on the dental team perform multiple tasks and pick up on deficiencies without having to be told.

**Recommendation:** During the first few engagements, the dental team should try to cross-train all team members in the various tasks of running different missions.

### **Issue: Lack of Host Nation Optometry at the CHOT Engagements**

**Discussion:** Only one host nation optometrist worked with mission staff, for half a day. In all other events, host nation eye-care providers were absent. While a tremendous number of patients were seen and given eyeglasses, it was a lost opportunity to train or conduct SMEE during these engagements.

**Recommendation:** More interactions should be arranged with host nation eye-care providers, to include the optometrist, the ophthalmologist, and their technicians. Additionally, the host nation should try to have its optometrists present during CHOT events.

### **Issue: Optometry Symposium Lacked Focus**

**Discussion:** According to the optometry team, the host nation audience possessed minimal background knowledge of eye care and related skills. Furthermore, the optometry team was unaware of the composition of its audience prior to departing for the mission. Thus, presentations often were not audience-specific and lacked focus for the needs and interests of different host nation audiences.

**Recommendation:** Bring sufficient education tools and materials, including but not limited to eye charts, eye models, eye anatomy graphs, and eye disease education and prevention pamphlets. Emphasize hands-on workshops for host nation optometrists and optometry technicians.

### **Issue: Mental Health Symposium Was Successful**

**Discussion:** In partnership with the DOH, ITRMC, and AFP, the mental health team provided a full-day mental health seminar to 87 physicians, nurses, and other health-care providers from outlying municipalities to assist them in filling the mental health gap.

**Recommendation:** This was one of the most successful and rewarding symposiums of the mission and included co-presentation and collaboration with all the appropriate personnel.

### **Issue: BMET Volume of Engagements Hindered Quality of Assistance**

**Discussion:** The mission was brief relative to the number of hospitals visited; it often felt like the medical team was unable to provide the quality of assistance and training it would have preferred. There also was an issue with timely ordering of repair parts. Most of the repair parts requested for the mission by the ADVON technician were not ordered on time or at all.

**Recommendation:** If the length of time cannot be extended or the number of biomedical personnel assigned to the mission cannot be increased, engagements should be limited. At each location, the host nation staff was unaware of the team's arrival date, which should have been made clear by the ADVON.

### **Issue: Not Enough Time to Demonstrate Water Sampling Techniques**

**Discussion:** Due to time constraints, chemical analysis of water samples was limited and prevented the team from demonstrating sampling techniques with DR2800 equipment.

**Recommendation:** Schedule water testing capabilities during the early stage of the mission.

**Issue: Forward Deployable Preventive Medicine Unit Unable to Properly Wash Hands**

**Discussion:** Due to the various locations of FDPMU tents, hand-washing stations were not readily available, and hand sanitizer was not sufficient for use while using chemicals and running bacteriological samples.

**Recommendation:** Ensure that portable hand-washing stations are provided when FDPMU tents are set up. Provide water for stations as needed, and drain prior to redeployment.

**Issue: Audio Projections for Large Classes Are Required in Noisy Environments**

**Discussion:** It was difficult for a speaker without a microphone to be heard in the FDPMU tents with two electronic control units running outside. Additionally, some locations did not have the capability to play audio or video files loud enough for students to hear.

**Recommendation:** Purchase portable microphone systems.

**Issue: Additional Lectures Required on New Diagnostic Methods and Disease Surveillance Techniques**

**Discussion:** For countries with increased capabilities and resources, more advanced lectures and SMEEs are needed. The lectures previously prepared for the mission did not adequately address the various country needs. Lack of a reliable high-speed Internet connection inhibited quick and easy preparation of lectures.

**Recommendation:** Develop additional lectures or classes that cover advanced topics such as new diagnostic methods and disease surveillance techniques. A broad base of topics will serve countries with basic needs or more advanced needs.

**Issue: Infectious Waste Management Program Is Needed**

**Discussion:** A viable infectious waste management program was not evident for the hospital and surrounding clinics. Infectious waste was being placed in a vault at the landfill. There are concerns about infectious and hazardous waste management practices. This was a continuing theme throughout the PP15 mission.

**Recommendation:** An integrated waste management team should assist governments on practical and sustainable solutions to waste management issues.



## Appendix A

**Pacific Partnership 2015  
Community Health Engagement Statistical Report  
Republic of Kiribati**



This report summarizes the data collected during the Pacific Partnership 2015 (U.S. Naval Ship [USNS] *Millinocket*) mission in the Republic of Kiribati from 03 to 16 JUN 2015. The collection of data reflects the collaboration among the host nation, partner nations, and nongovernmental organizations.

**Table A-1. Pacific Partnership 2015 (PP15) specialties in the Republic of Kiribati.**

PP15 Specialties Represented		
Family Medicine	Nursing	Entomology
Emergency Medicine	Mental Health	Veterinary
Internal Medicine	Dental	Biomedical
Pediatrics	Dental Hygiene	Public Health Engagement
Obstetrics/Gynecology (OB/GYN)	Optometry	Chaplaincy

### Data Collection Method

- At the beginning of the mission, the previous Pacific Partnership patient encounter form was presented to the Army clinical staff assigned to the USNS *Millinocket*. The teams preferred to use the forms provided by the host nation.
- The clinical staff assigned to the USNS *Millinocket* was not provided with a personal digital assistant or with access to the Relational Database Management System website used during previous Pacific Partnership missions.

- An Excel data collection spreadsheet was created by a Project HOPE volunteer to obtain quantitative data and provide daily updates to leadership, as well as the creation of data collection forms to be used in the field and tallied at the end of day (EOD).
- Optometry script was created by a Project HOPE volunteer in collaboration with the Army optometrist, due to inefficiencies in the host nation (Kiribati) script and patient intake process.
- The host nation technician was pleased with the new script and incorporated it into practice.
- Data collection sheets were collected at EOD and manually entered into a spreadsheet; leadership received a daily printout for operational purposes.

**Table A-2. Kiribati statistical profile from the World Health Organization.**

Kiribati: Statistical Profile		
Indicators	Statistics	Year
Population	102,000	2013
Population Age Under 15	30 Percent	2013
Median Age	24 Years	2013
Population Living in Urban Areas	44 Percent	2013

**Table A-3. Data collection summaries for patient care, attendance, gender ratios, and optometry.**

Patient Care		
Total Human Patients	1,546	
Total Human Procedures	868	
Total Animal Patients	446	
Total Animal Procedures	557	
Total Patients	1,992	
Total Procedures	1,425	
Event Attendees		
Total Attendees	6,224	
Gender Ratios		
Team	Male	Female
Medical	44 Percent	56 Percent
Dental	41 Percent	59 Percent
Optometry*	53 Percent	47 Percent
*216 glasses dispensed		

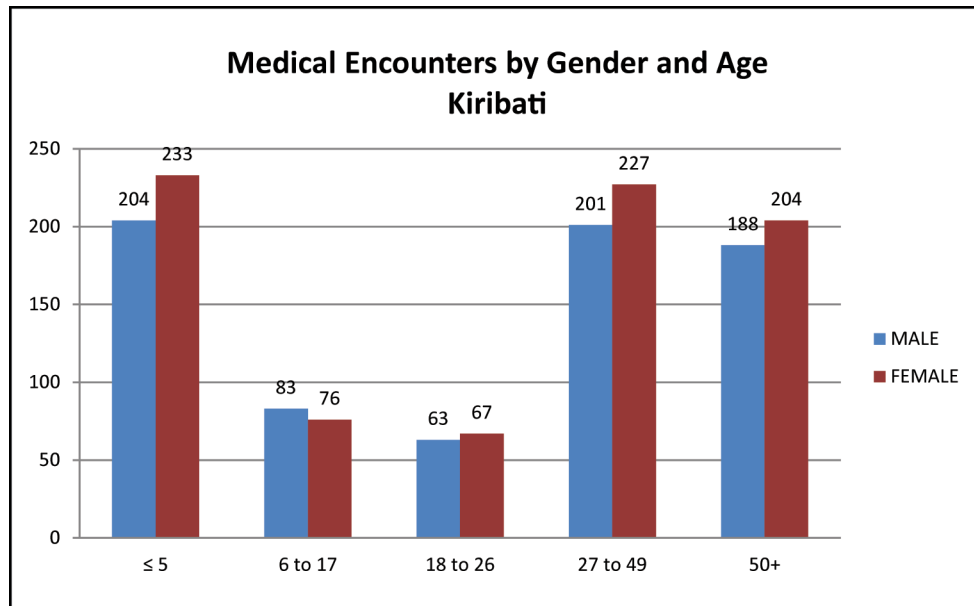
**Table A-4. Joint and multi-day events.**

Dates	BFRC	Nurse School	Nurse Wrkshp	Dental BLS	Dental Hygiene	RIM	RIM Talks	Mental Health	MTC First Aid	Disaster TTX	Total Attend
6/3/15	0	0	0	0	0	73	0	0	0	0	
6/4/15	0	64*	0	0	0	0	0	0	0	0	
6/5/15	0	66	0	0	0	0	0	0	0	0	
6/8/15	0	0	0	0	1,000	0	0	0	0	0	
6/9/15	0	0	17	0	1,050	0	0	0	0	0	
6/10/15	16	0	27	0	1,776	0	0	0	0	0	
6/11/15	0	14	0	0	0	0	0	34	0	0	
6/12/15	0	0	14	0	970	0	0	0	0	15	
6/15/15	0	0	0	0	542	0	0	0	0	0	
6/16/15	0	0	0	0	525	0	85	0	0	0	
Totals	16	80	58	0	5,863	73	85	34	0	15	6,224
*Basic First Responder Course (BFRC); Remote Island Medicine (RIM). Red indicates joint events. Blue indicates multi-day events.											

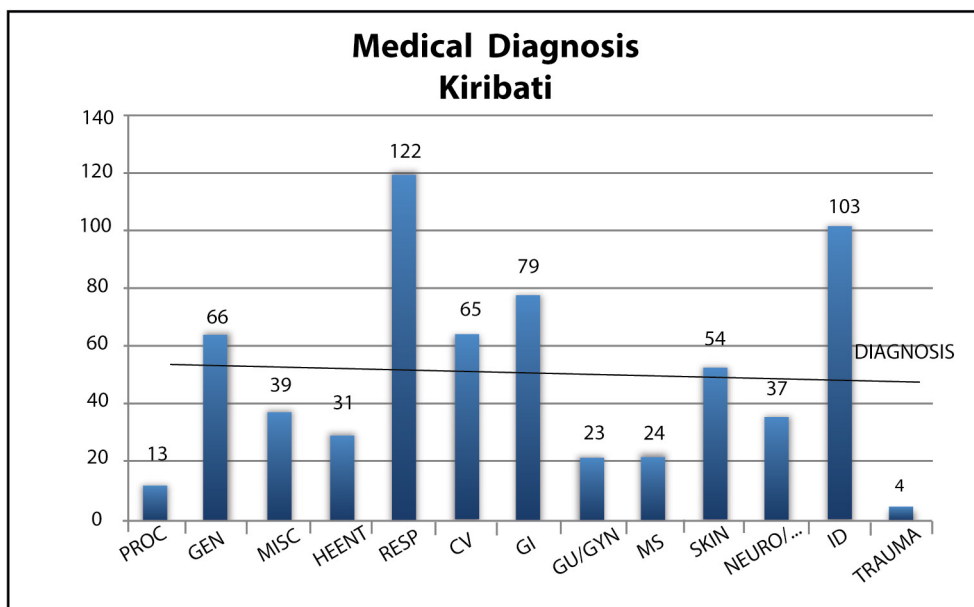
## Medical Services

The following staff provided medical services during the Pacific Partnership 2015 mission in Kiribati:

- Pediatric medical doctor (MD)
- Emergency medicine MD
- Emergency medicine physician's assistant
- Family nurse practitioner
- Internal medicine MD
- OB/GYN MD
- Registered nurse/midwife



**Figure A-1. Numbers of medical patients, by age group and gender.**

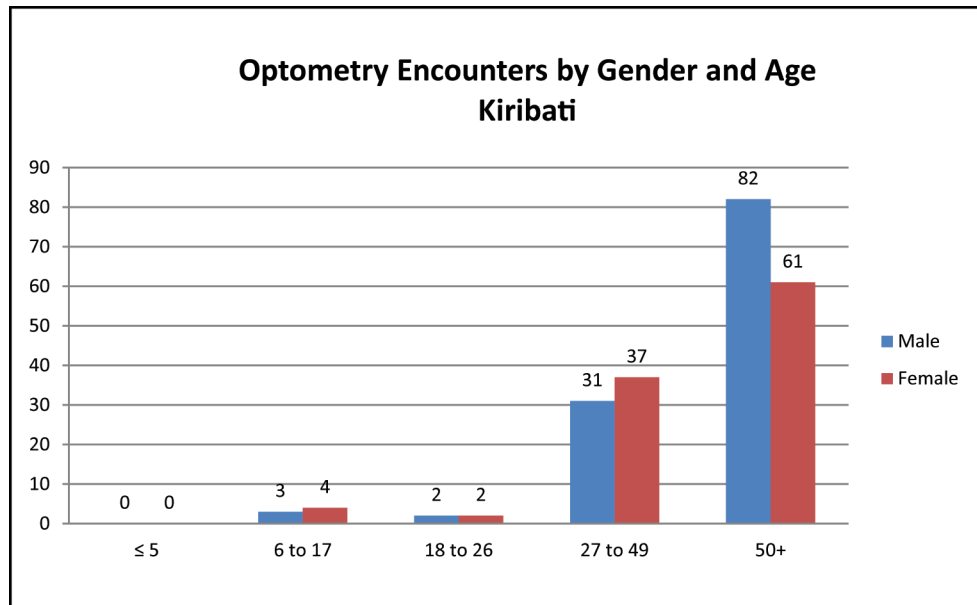


**Figure A-2. Respiratory complications (122) were the most frequent medical diagnoses, followed by infectious disease (103) and gastrointestinal problems (79).**

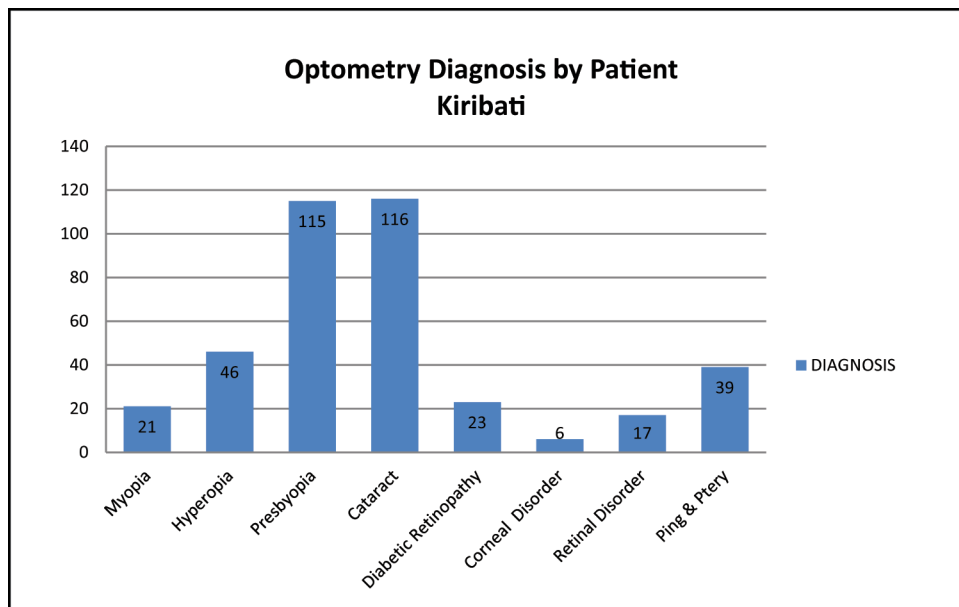


## Optometry

The optometry staff included one optometrist and one ophthalmic technician.



**Figure A-3. Numbers of optometry patients, by age group and gender.**



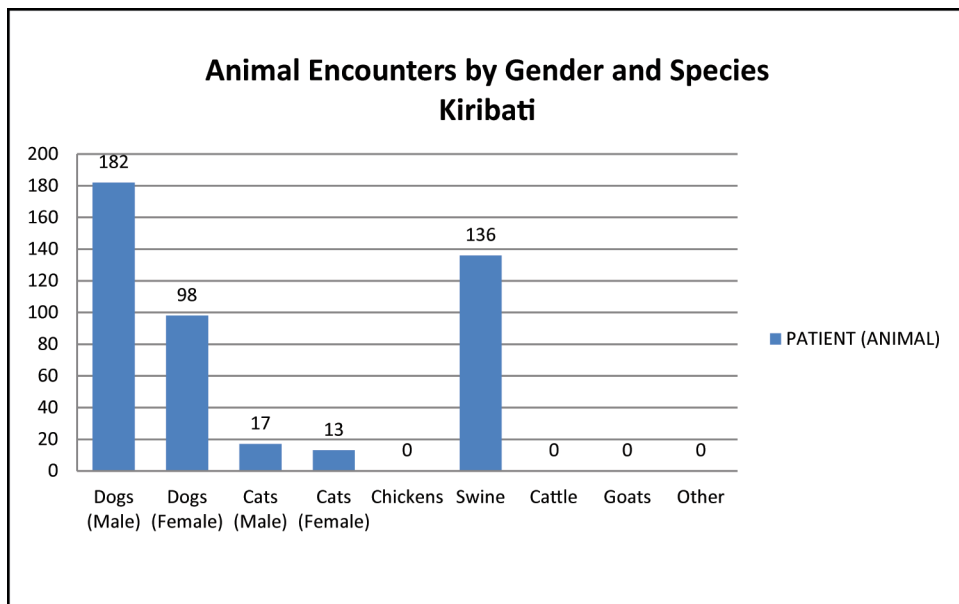
**Figure A-4. The most frequent diagnosis was cataracts (116), followed by presbyopia (115) and hyperopia (46).**



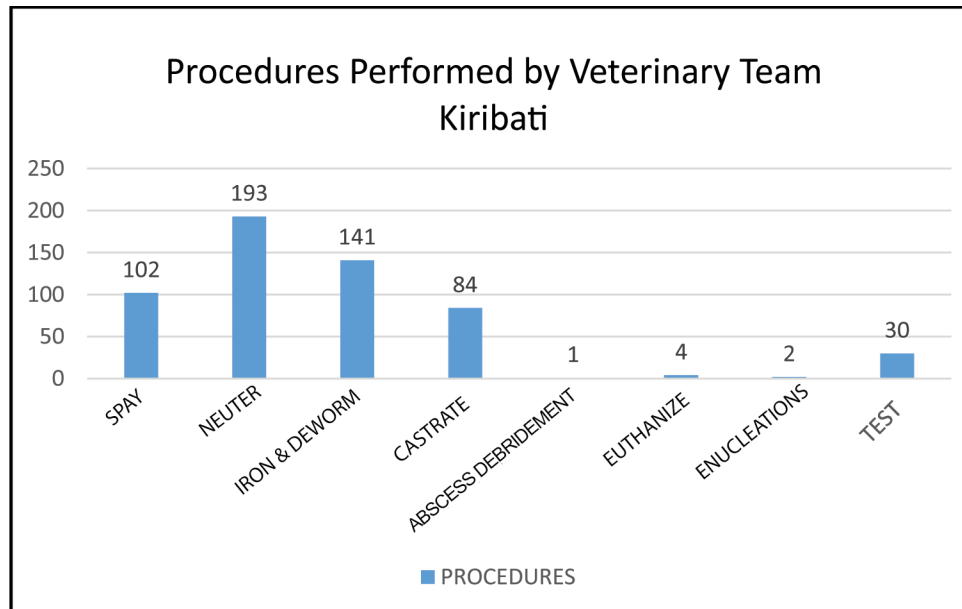
**Figure A-5. The most frequent refractive powers dispensed were +2.50, +2.00, +1.00 (32). Most patients were elderly and were found to be hyperopic or presbyopic. The chief complaint was problems with reading.**

## Veterinary Service

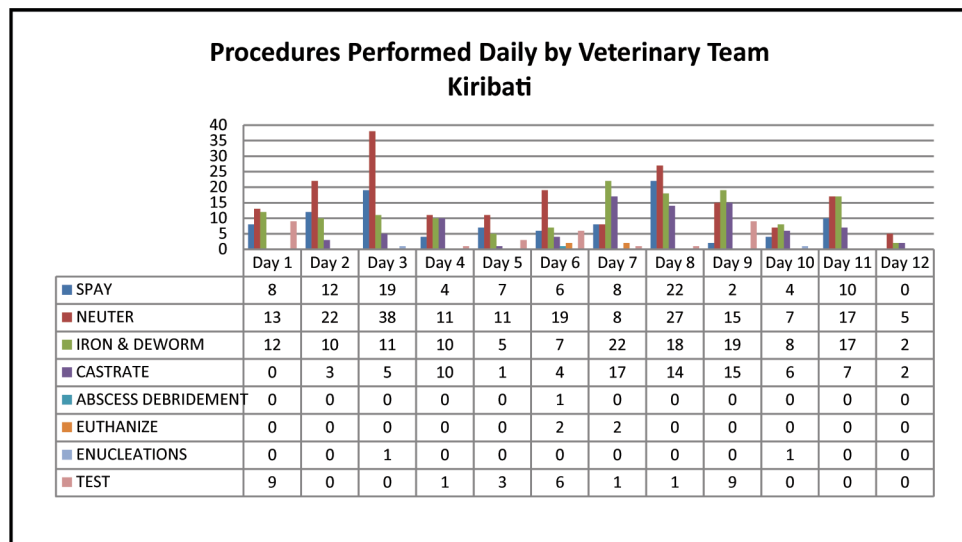
The veterinary staff included four veterinarians and four veterinarian technicians.



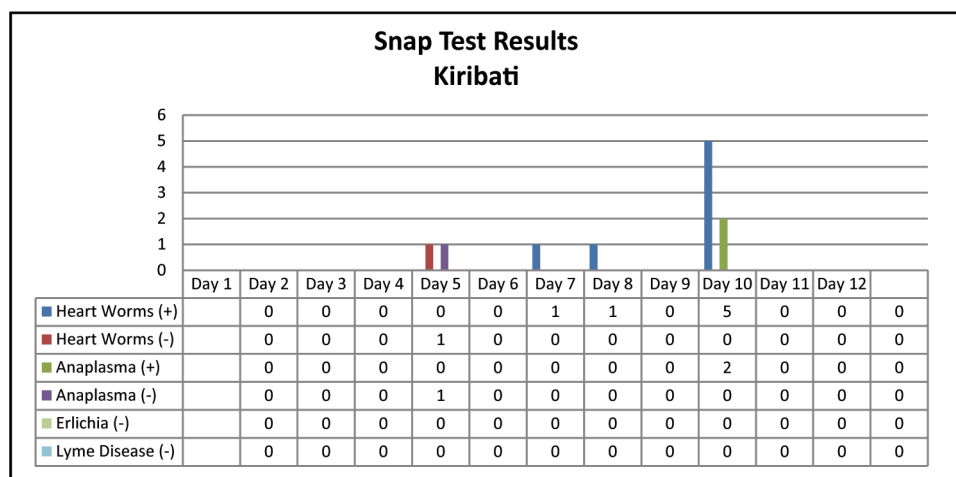
**Figure A-6. Male dogs (182) were the most frequent animals seen by the veterinary team, followed by swine (136) and female dogs (98).**



**Figure A-7. Neuters (193) were the most frequent procedures performed by the veterinary team, followed by administering iron and deworming injections (141) and spays (102).**



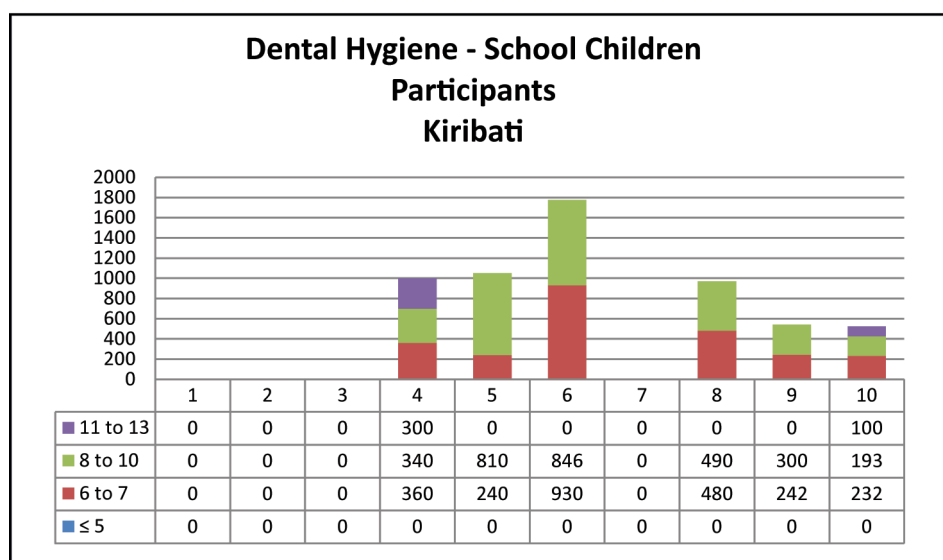
**Figure A-8. Daily log of procedures performed by the veterinary team in Kiribati show neuters as the procedure with the highest, consistent performance.**



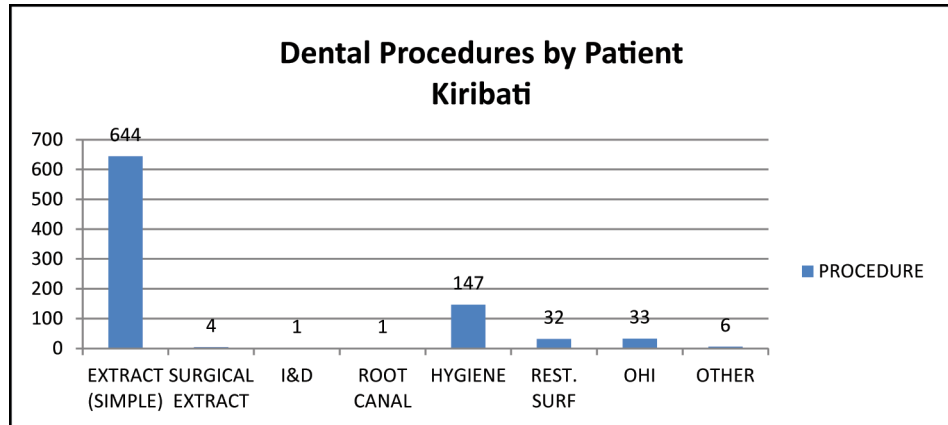
**Figure A-9.** The veterinary team performed 30 Snap 4Dx tests at random; seven animals were confirmed positive for heartworm of which two were also positive for anaplasma.

## Dental Services

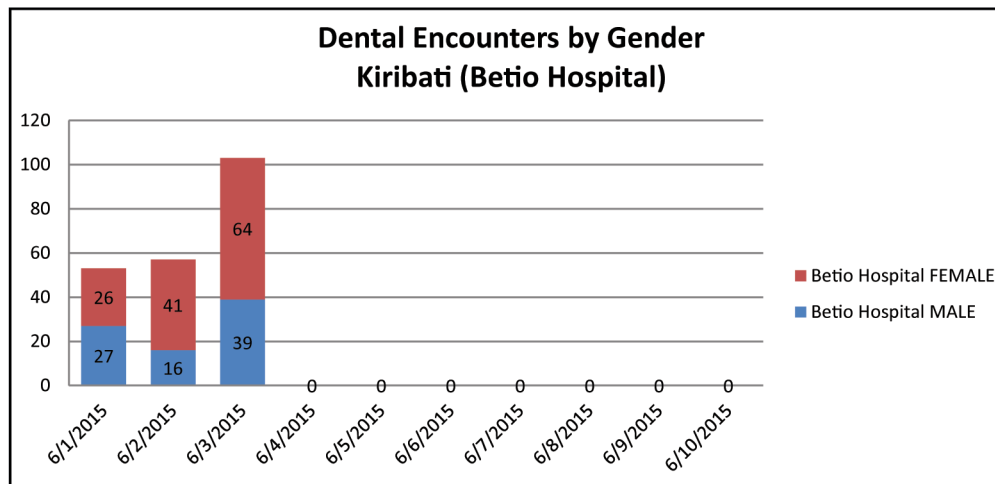
A team of one oral surgeon, one endodontist, five general dentists, one dental hygienist, and four dental assistants performed dental services.



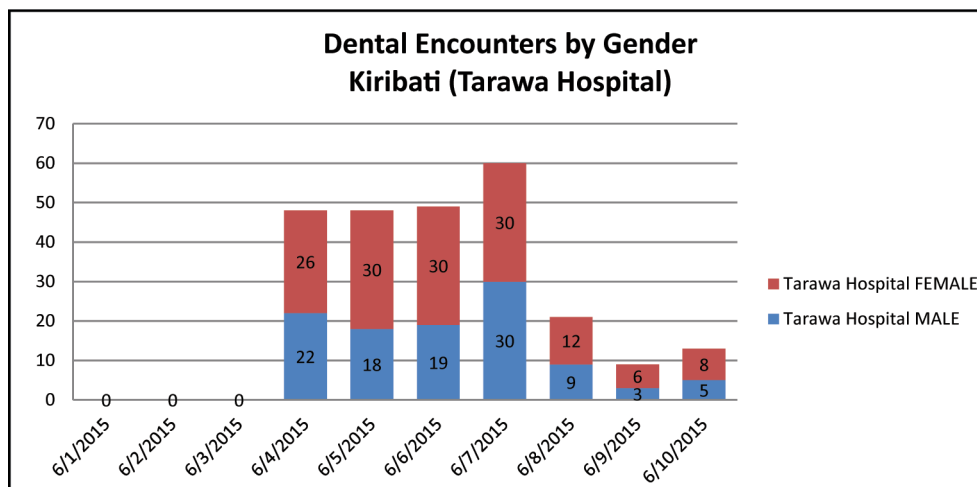
**Figure A-10.** Attendance for school-age participants reached the peak during the sixth day of the dental hygiene event. The top age group in attendance was 8 to 10 years.



**Figure A-11. Simple tooth extractions (644) were the most common procedure performed by the dental team.**



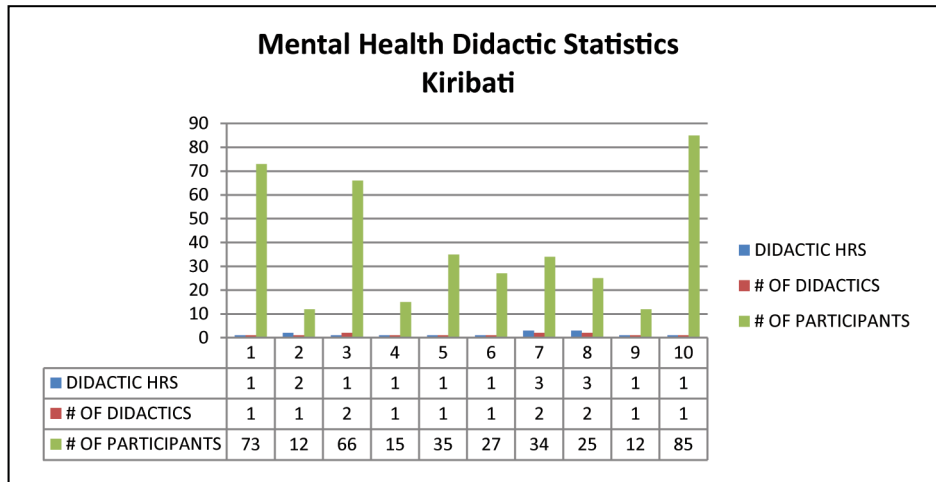
**Figure A-12. Dental patients treated at Betio Hospital.**



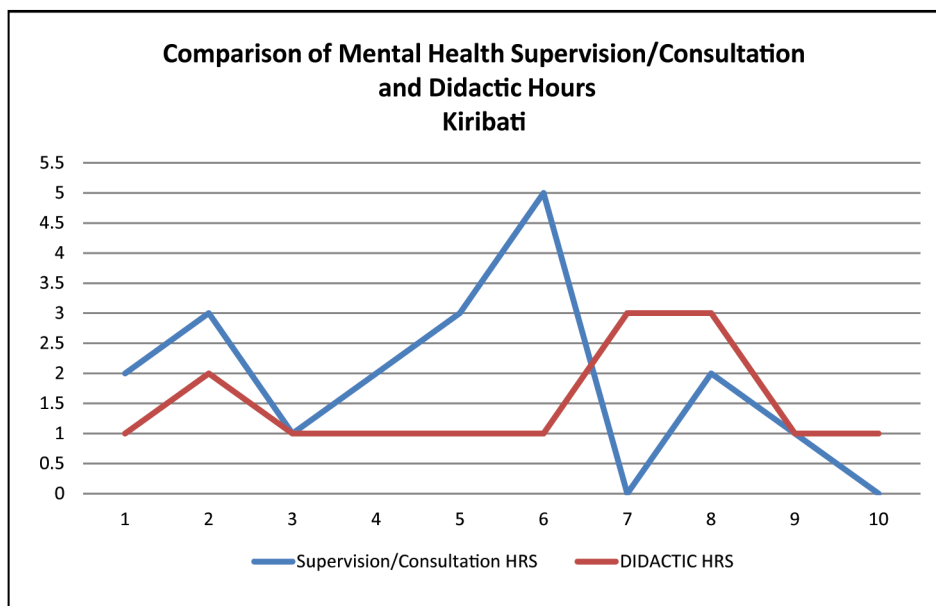
**Figure A-13. Dental patients treated at Tarawa Hospital.**

## Mental Health

The mental health staff included one neuropsychologist and one orderly/behavioral health technician.



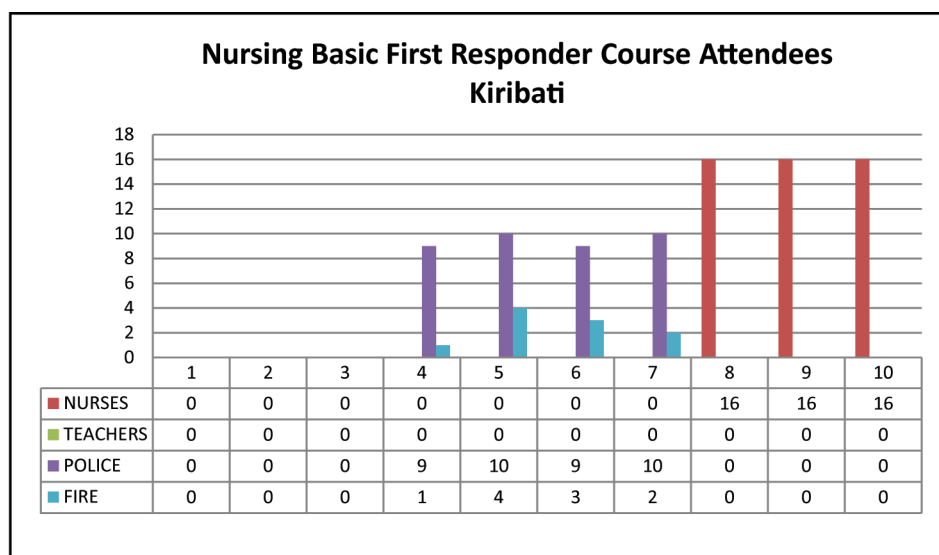
**Figure A-14. The mental health staff performed 13 didactics over a 15-hour time span with 384 participants.**



**Figure A-15. The mental health staff performed 19 supervision/consultation hours and 15 didactic hours over 10 days.**

## Nursing

The staff consisted of one intensive care unit nurse, one operating room nurse, one medical surgical nurse, one administrative nurse, seven licensed practical nurses, and three medics.



**Figure A-16. Nurses conducted training courses for host nation medical staff and student populations; the largest number captured was 48 host nation nurses, 38 police officers, and 10 firefighters.**

## Chaplaincy

The chaplaincy staff consisted of only one chaplain, who connected with three of the following religious organizations:

- Assemblies of God
- Catholic
- Protestant/nondenominational

The chaplain delivered a sermon on 07 JUN 2015 to 100 attendees at Tangintebu Theological College (a Protestant/nondenominational congregation).

## Biomedical

The biomedical staff consisted of one clinical engineer technician, who performed the following action:

- Repaired 33 pieces of equipment.
- Identified the parts required to repair an additional 20 pieces of equipment.
- Trained the host nation staff and technicians to maintain an additional 20 pieces of equipment.

- Estimated the value of the repaired equipment at \$1 million.
- Identified the following three areas that would benefit Kiribati in terms of equipment:
  - Establishment of an accountability system (e.g., inspection stickers).
  - Time management (most time spent was due to lack of knowledge).
  - Training program (for biomedical staff and medical staff members using equipment).

### **Public Health Engagement**

The public health staff included one preventive medicine MD, one entomologist, one environmental health officer, one industrial hygienist, one microbiologist, one microbiology technician, and three preventive medicine technicians.

### **Discussion**

On a few occasions, clinicians indicated that their numbers were off due to lack of practice with recordkeeping in the field. The numbers received were believed to be best estimates.

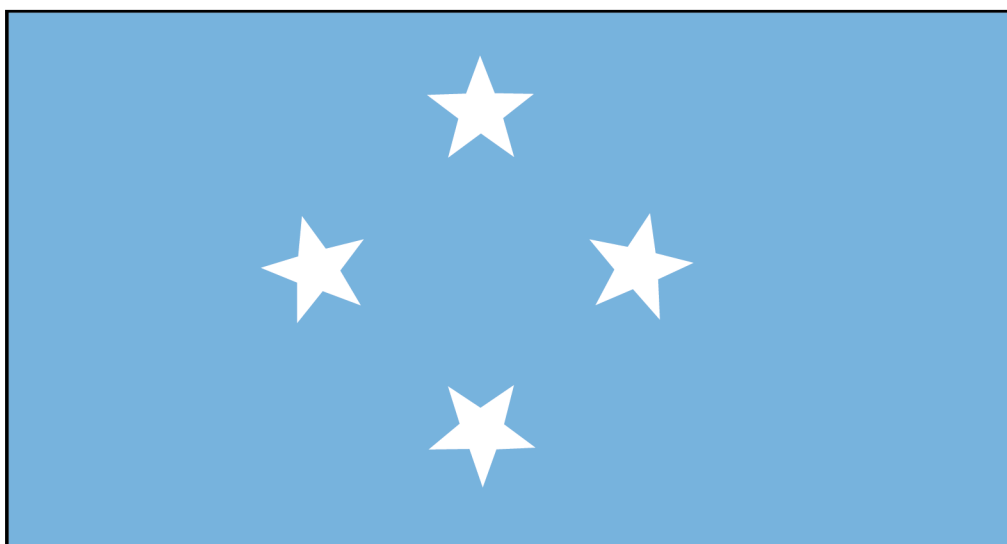
Antenatal numbers were not originally recorded by male and female. To resolve this issue and include these numbers in the ratio by gender, the following estimate formula was used:

Total number (n=175) was split using an 85 percent (140) count for females and a 15 percent (35) count for males.



## Appendix B

### Pacific Partnership 2015 Community Health Engagement Statistical Report Federated States of Micronesia



This report summarizes the quantitative data collected during the Pacific Partnership 2015 (U.S. Naval Ship *Millinocket*) mission in the Federated States of Micronesia from 23 JUN to 05 JUL 2015. The data collection reflects the collaboration among the host nation, partner nations, and nongovernmental organizations.

**Table B-1. PP15 specialties in the Federated States of Micronesia.**

Pacific Partnership 2015 (PP15) Specialties Represented		
Family Medicine	Nursing	Entomology
Emergency Medicine	Mental Health	Veterinary
Internal Medicine	Dental	Biomedical
Pediatrics	Dental Hygiene	Public Health Engagement
Obstetrics/Gynecology (OB/GYN)	Optometry	Chaplaincy

#### Data Collection Method

- An Excel data collection spreadsheet was created by Project HOPE to obtain quantitative data and provide daily updates to leadership, as well as create data collection forms to be used in the field and tallied at end of day (EOD).

- Data collection sheets were requested from each specialty at EOD and manually entered into the spreadsheet; leadership received a daily printout for operational purposes.
- There were difficulties in collecting data from groups assigned to Chuuke; therefore, there were several days when the overall patient encounter numbers were used for totals, but due to lack of data recording detailed information was not captured.

**Table B-2. Federated States of Micronesia statistical profile from the World Health Organization.**

Federated States of Micronesia Statistical Profile		
Indicators	Statistics	Year
Population	104,000	2013
Population Age Under 15	35 Percent	2013
Median Age	21	2013
Population Living in Rural Areas	22 Percent	2013

## Data Collection Summaries

**Table B-3. Data collection summaries for patient care, attendance, gender ratios, and optometry.**

PATIENT CARE	
Total Human Patients	1,546
Total Human Procedures	868
Total Animal Patients	446
Total Animal Procedures	557
Total Patients	1,992
Total Procedures	1,425
EVENT ATTENDEES	
Total Attendees	6,224

GENDER RATIOS		
Team	Male	Female
Medical	44 Percent	56 Percent
Dental	41 Percent	59 Percent
Optometry*	53 Percent	47 Percent
* 216 glasses dispensed.		

## Events

**Table B-4. Joint and multi-day events.**

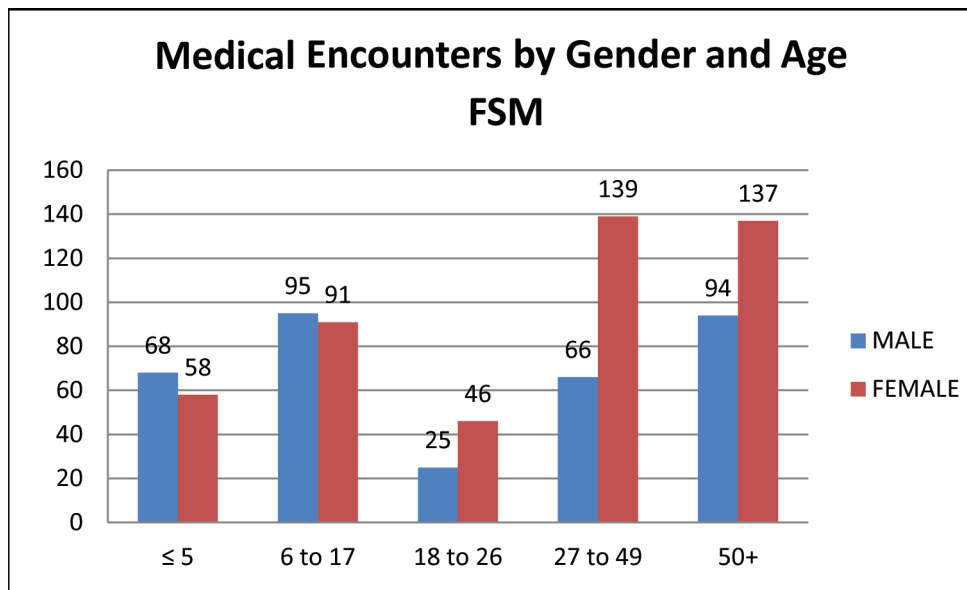
Dates	BLS	BFRC	DENTAL SYMP	CHE WEEK 1	CHE CHUUE	BASIC TRAUMA MGT	VET AG ED	DENTAL HYGIENE	BLS AMBUL-ANCE	BLS HOSP STAFF	NURSING SYMP	FARM INSPECT	HELPING BABIES BREATHE	SARX	DAILY TOTAL
6/23/15	36		21												57
6/24/15	0		27			22	33	0	9	0	0	0	0	0	91
6/25/15	29			225	17	0	27	73	0	31	0	0	0		402
6/26/15	0			211		0	21	126	0	0	25	0	0		383
6/27/15	0	41		313		29	0	0	0	0	0	27	0		410
6/28/15															0
6/29/15								0			16	2	0	10	28
6/30/15								0			23	2	8		33
7/1/15								64				2			66
7/2/15								17				2	7		26
7/3/15								17				3			20
TOTAL	65	41	48		0	51	81	280	9	31	64	38	15	10	723

\* Green colors indicate joint events  
 \*\* Blue color indicates multi-day event  
 \*\*\* Red CHE

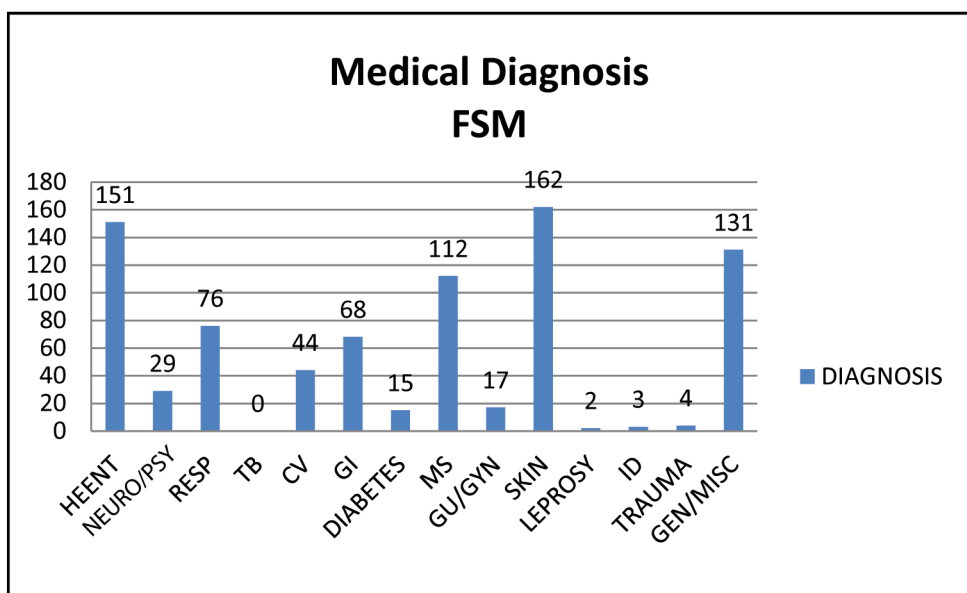
## Medical Services

The following staff provided medical services during the PP15 mission in the Federated States of Micronesia:

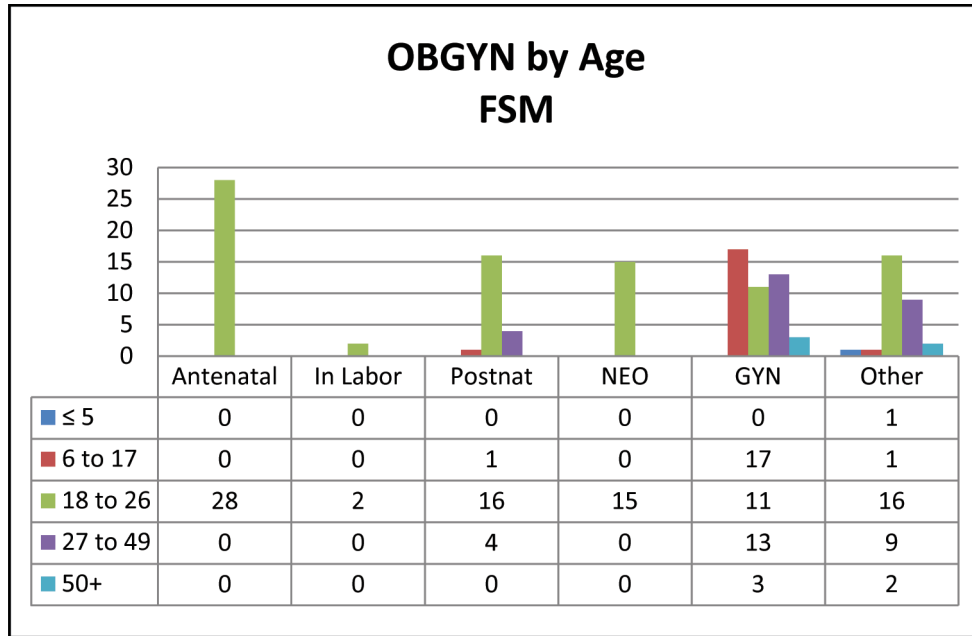
- Pediatric medical doctor (MD)
- Emergency medicine MD
- Emergency medicine physician's assistant
- Family nurse practitioner
- Internal medicine MD
- OB/GYN MD
- Registered nurse/midwife



**Figure B-1. Numbers of medical encounters by gender and age groups.**



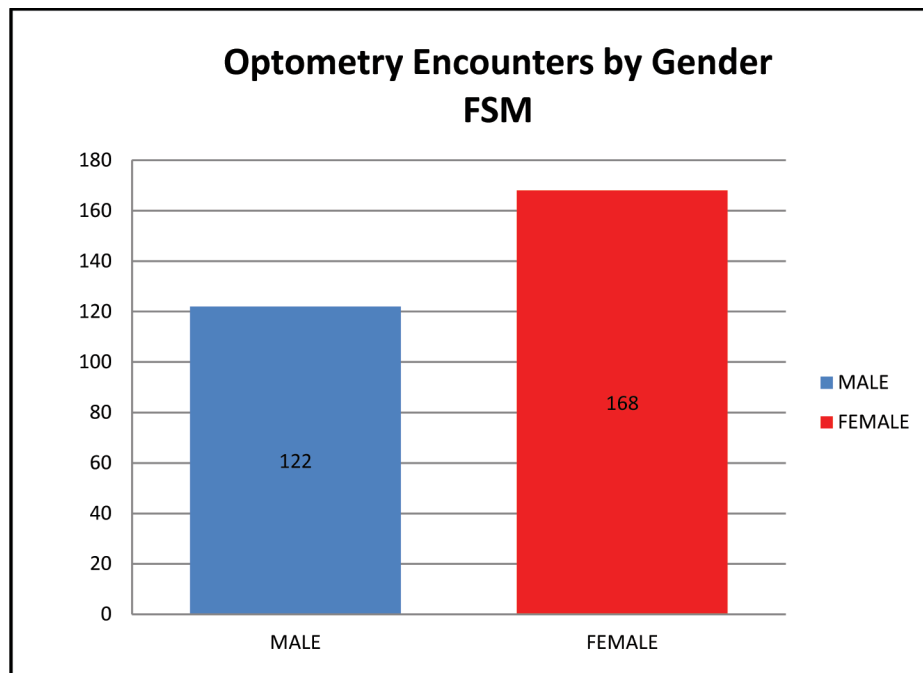
**Figure B-2. Skin problems were the most frequent medical diagnosis.**



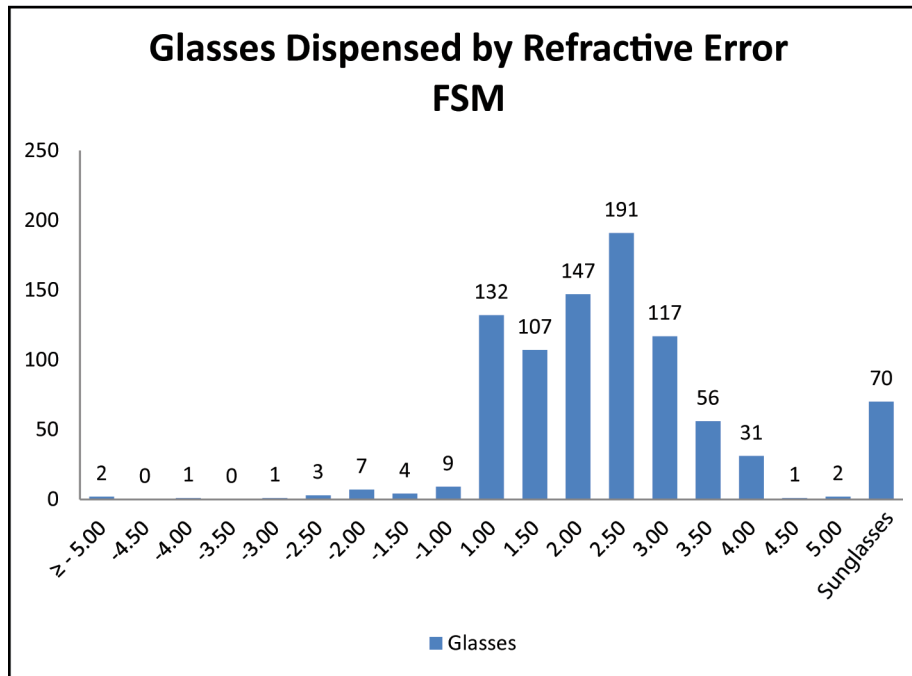
**Figure B-3. Numbers of OB/GYN examinations by type and age group.**

## Optometry

The optometry staff included one optometrist and one ophthalmic technician.



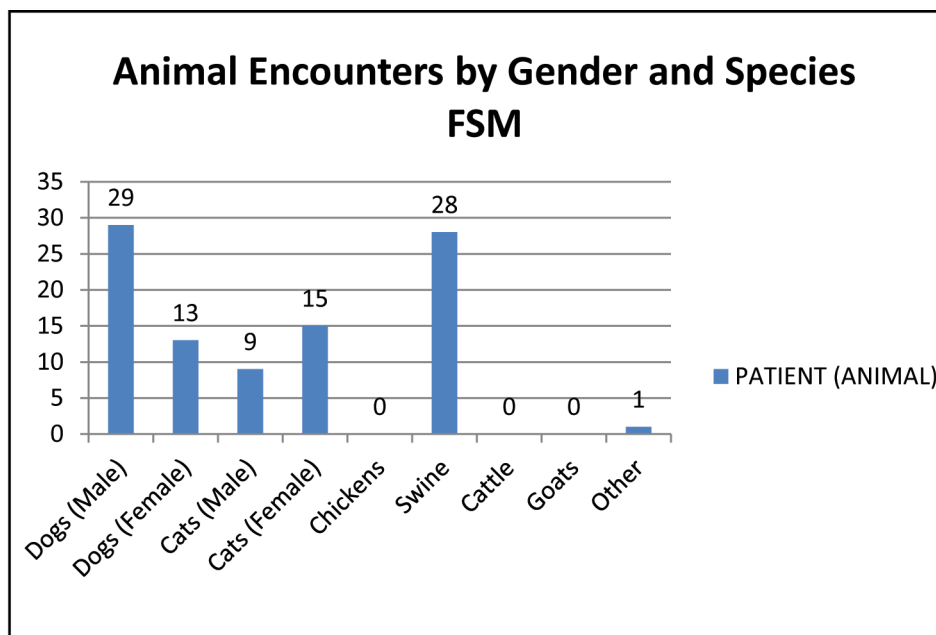
**Figure B-4. The optometry staff saw 290 patients.**



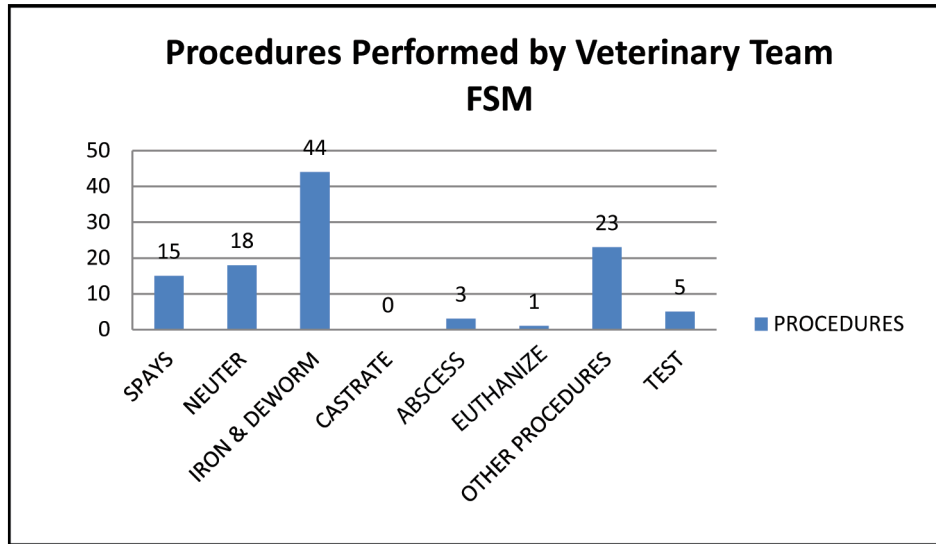
**Figure B-5. Ranges of +2.50, +2.00, +1.00 (32) were the most frequent refractive powers dispensed. Note: Most patients seen were elderly, found to be hyperopic or presbyopic. The chief complaint was problems with reading.**

## Veterinary Services

The veterinary staff consisted of four veterinarians and four veterinary technicians.



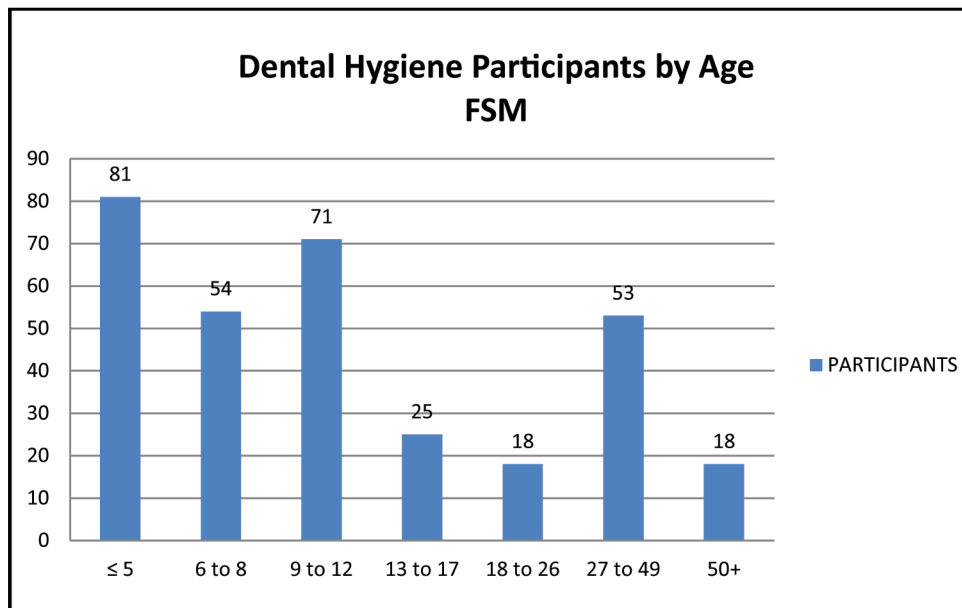
**Figure B-6. Dogs, cats, and swine were the most common animals treated.**



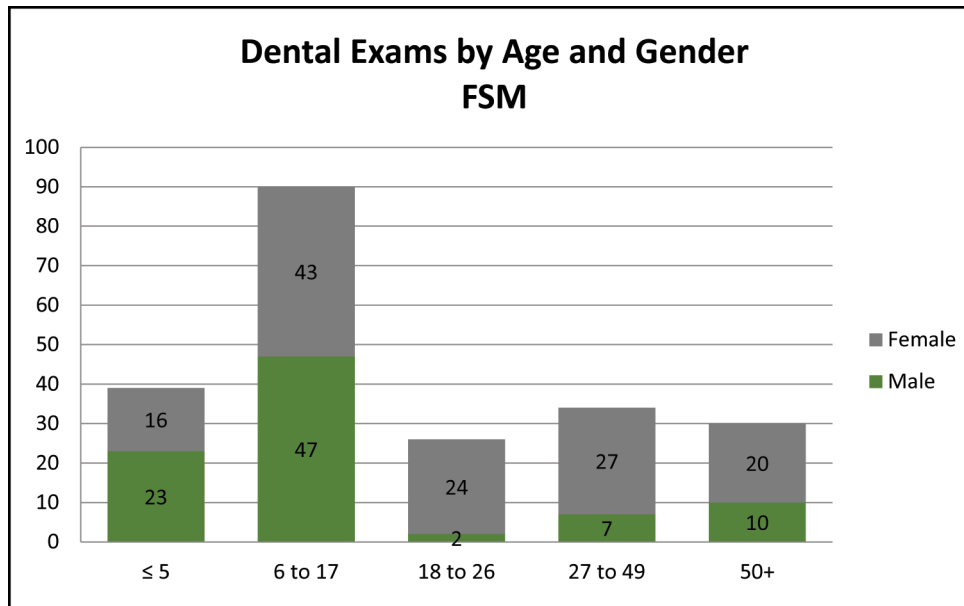
**Figure B-7. Iron supplements and deworming injections were the most common procedures.**

## Dental Service

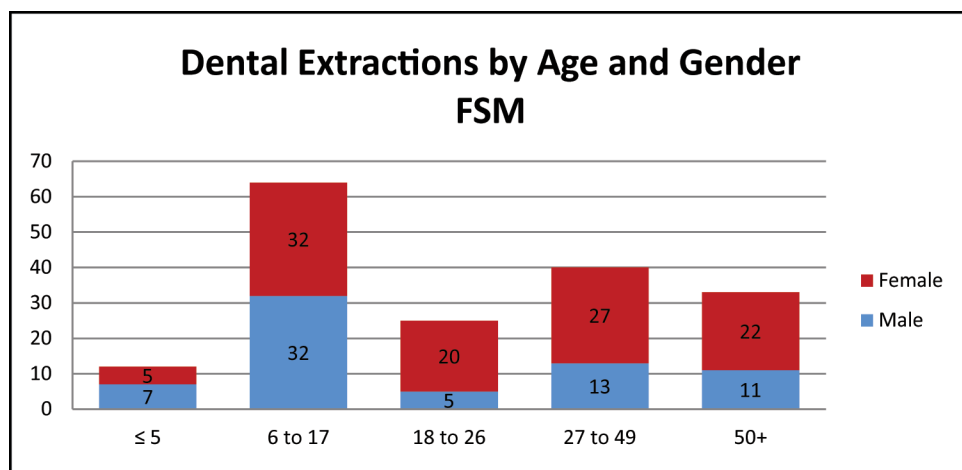
The dental staff included one oral surgeon, one endodontist, five general dentists, one dental hygienist, and four dental assistants.



**Figure B-8. Dental hygiene patients by age group.**



**Figure B-9. Dental examinations totaled 219.**



**Figure B-10. Tooth extractions (simple) were the top procedures performed by the dental team.**



## Mental Health

The mental health staff consisted of one neuropsychologist and one orderly/behavioral health technician.

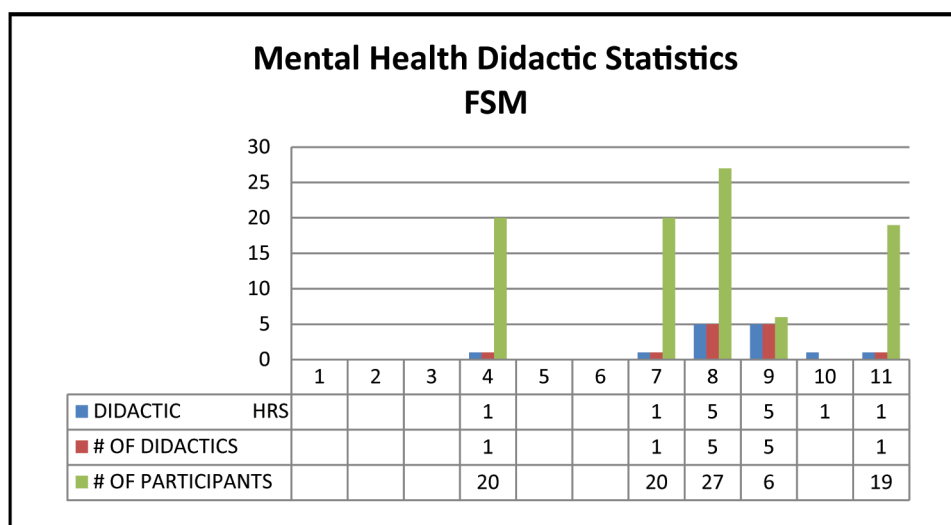


Figure B-11. Mental health didactic (instructional) hours, occurrences, and participants.

## Public Health Engagements

The public health staff included a preventive medicine MD, an entomologist, an environmental health officer, an industrial hygienist, a microbiologist, a microbiology technician, and three preventive medicine technicians.

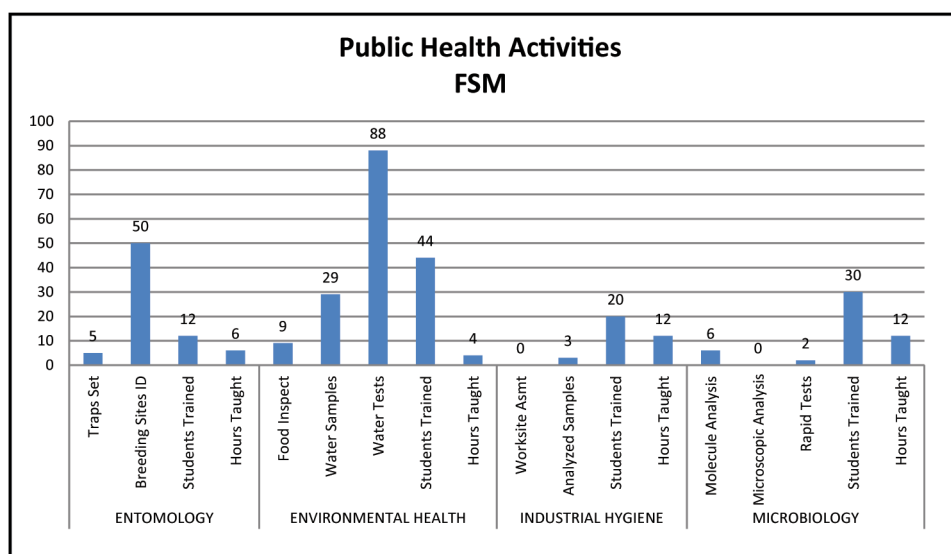


Figure B-12. Public health activities included training, inspections, and analysis.



## Appendix C

### Pacific Partnership 2015 Community Health Engagement Statistical Report Solomon Islands



This report summarizes the quantitative data collected during the Pacific Partnership 2015 (U.S. Naval Ship Millinocket) mission in the Solomon Islands, 11 to 26 JUL 2015. The data collection reflects the collaboration among the host nation, partner nations, and nongovernmental organizations.

**Table C-1. PP15 specialties for the Solomon Islands.**

Pacific Partnership 2015 (PP15) Specialties Represented		
Family Medicine	Nursing	Entomology
Emergency Medicine	Mental Health	Veterinary
Internal Medicine	Dental	Biomedical
Pediatrics	Dental Hygiene	Public Health Engagement
Obstetric/Gynecology (OB/GYN)	Optometry	Chaplaincy

#### Data Collection Method

- Excel data collection spreadsheets were created by Project HOPE to obtain quantitative data and provide daily updates to the leadership, as well as create data collection forms to be used in the field and tallied at end of day (EOD).
- Data collection sheets were collected at EOD and manually entered into the spreadsheet; the leadership received a daily printout for operational purposes.

**Table C-2. Population data from the World Health Organization.**

Solomon Islands Statistical Profile		
Indicators	Statistics	Year
Population	561,000	2013
Population Age Under 15	40 Percent	2013
Median Age	20	2013
Population Living in Urban Areas	21 Percent	2013

## Data Collection Summaries

**Table C-3. Data collection summaries for patient care, attendance, gender ratios, and optometry.**

PATIENT CARE		
Total Human Patients	1,337	
Total Human Procedures	145	
Total Animal Patients	53	
Total Animal Procedures	41	
Total Patients	1,390	
Total Procedures	239	
EVENT ATTENDEES		
Total Attendees	2,389	
GENDER RATIOS		
Team	Male	Female
Medical	23 Percent	77 Percent
Dental	49 Percent	51 Percent
Optometry*	42 Percent	58 Percent
* 423 glasses dispensed.		

## Events

Dates	IM	FM	EM	PEDS	MH	OB-GYN	DENT	DENT HYG	OPT	NURSING	VET	PHARM	BMET	NURSING LECTURE	NURSING SKILLS			TOTAL
7/13/15	2	0	2	3	4	2	6	5	0	0	22		20					66
7/14/15	2	0	2	3	4	2	0	193	0	0	19							225
7/15/15	2	0	2	0	15	2	6	5	0	3	20							55
7/16/15	2	0	2	3	5	2	6	5	0	0	28				18			71
7/17/15	2	0	2	3	0	2	25	414	1	18	10							477
7/18/15	0	0	0	0	0	0	0	0	0	0	0							0
7/19/15	0	0	0	0	0	0	0	0	0	0	0							0
7/20/15	2	4	2	4	0	2	17	49	0	0	1							81
7/21/15	2	2	2	2	20	4	30	2	0	0	9			11				84
7/22/15	2	2	0	13	0	2	6	283	15	0	10			13				346
7/23/15	3	0	0	2	11	2	6	255	40	0	2	3		10				334
7/24/15	2	0	0	17	0	0	0	300	40	0	1	6						366
TOTAL	21	8	14	50	59	20	102	1511	96	21	122	9	20	34	18	0	0	2105

**Figure C-1. Event statistics calendar.**

# U.S. ARMY MEDICAL CONTINGENT-PACIFIC PARTNERSHIP 2015

Dates	BFRC AUKI	BFRC HONIARA	TRIAGE	BLS AUKI	BLS HONIARA	ACLS	FIRST AID	EMERG OPS	MASCAL	SEAT	HBB AUKI			TOTAL
7/13/15	20	34			0									54
7/14/15				25										25
7/15/15										25	13			38
7/16/15														0
7/17/15														0
7/18/15														0
7/19/15														0
7/20/15			24			12		22						58
7/21/15							18	31						49
7/22/15														0
7/23/15									50					50
7/24/15									10					10
TOTAL	20	34	24	25	0	12	18	53	60	25	13	0	0	284

Figure C-2. Twelve-day performed-actions chart.

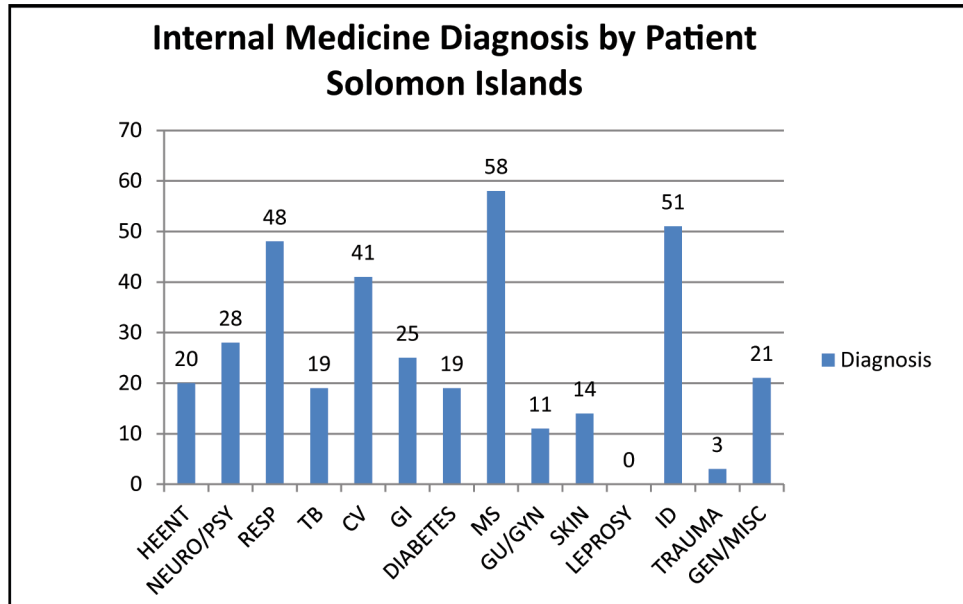
Total Trained/Attendees	2,389
Total Adults Trained	927

## Medical Services

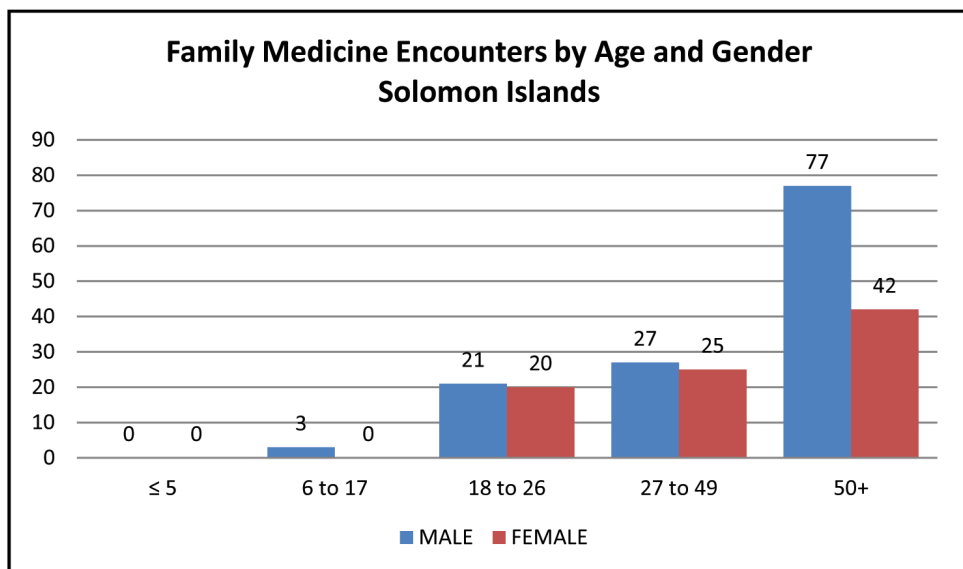
The medical services staff included one pediatric MD, one emergency medicine MD, one emergency medicine PA, one family nurse practitioner, one internal medicine MD, one OB/GYN MD, and one registered nurse/midwife.

TOTAL MEDICAL - IM, FM, EM, PED											
	MALE					FEMALE					
	? 5	6 to 17	18 to 26	27 to 49	50+	? 5	6 to 17	18 to 26	27 to 49	50+	
HEENT	3	1	0	0	1	3	2	3	3	4	20
NEURO/PSY	1	0	0	1	16	2	0	1	2	5	28
RESP	11	0	0	7	4	8	0	5	11	2	48
TB	0	0	2	3	10	0	0	2	2	0	19
CV	0	3	16	0	12	0	0	3	1	6	41
GI	4	0	0	2	7	2	0	4	5	1	25
DIABETES	0	0	0	1	6	0	0	0	1	11	19
MS	0	0	1	11	16	0	0	3	11	16	58
GU/GYN	1	0	1	1	0	0	0	5	2	1	11
SKIN	6	0	0	1	2	3	1	0	0	1	14
LEPROSY	0	0	0	0	0	0	0	0	0	0	0
ID	15	0	2	5	7	16	0	0	3	3	51
TRAUMA	2	0	0	0	0	1	0	0	0	0	3
GEN/MISC	7	0	0	0	2	6	1	1	2	2	21
	50	4	22	32	83	41	4	27	43	52	
											358

Figure C-3. PP15 medical services performed in the Solomon Islands.



**Figure C-4. Medical diagnoses for internal medicine, emergency medicine, family medicine, and pediatrics found musculoskeletal health concerns (58) as the leading medical diagnosis in patients from the Solomon Islands.**



**Figure C-5. Age and gender comparisons for patients seen by the internal medicine team.**

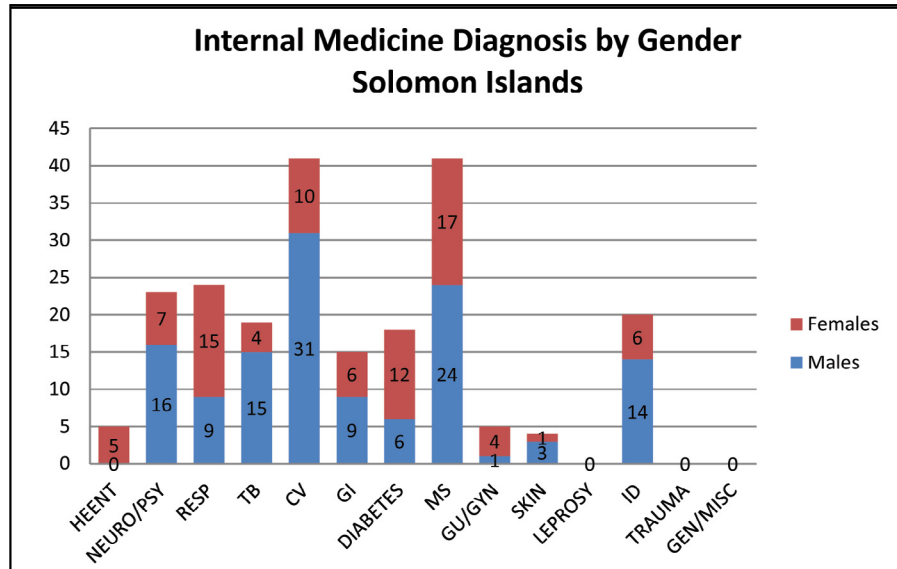


Figure C-6. Internal medicine diagnosis by gender.

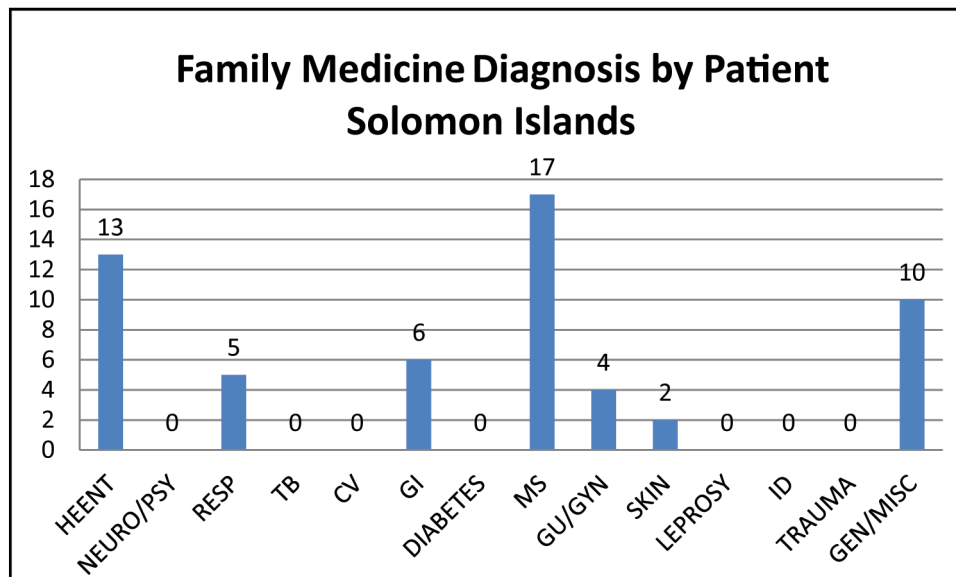


Figure C-7. Family medicine diagnosis by patient.

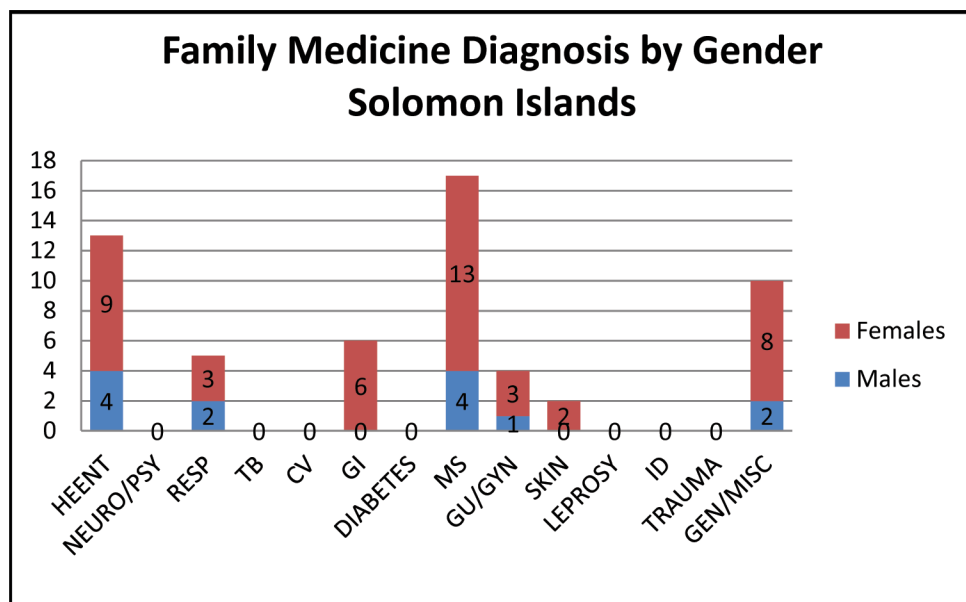


Figure C-8. Family medicine diagnosis by gender.

## Obstetrics and Gynecology

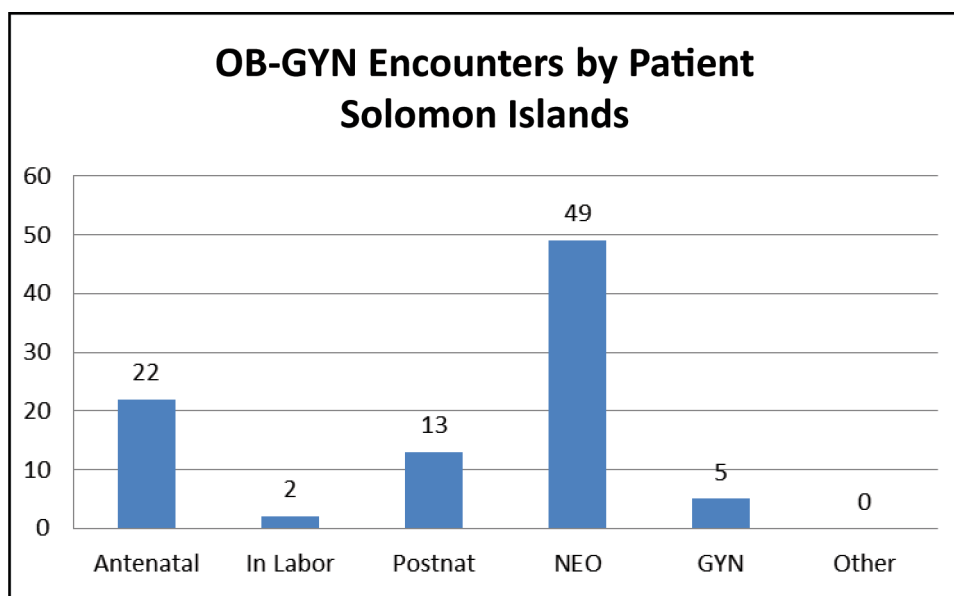


Figure C-9. OB/GYN encounters by patient.



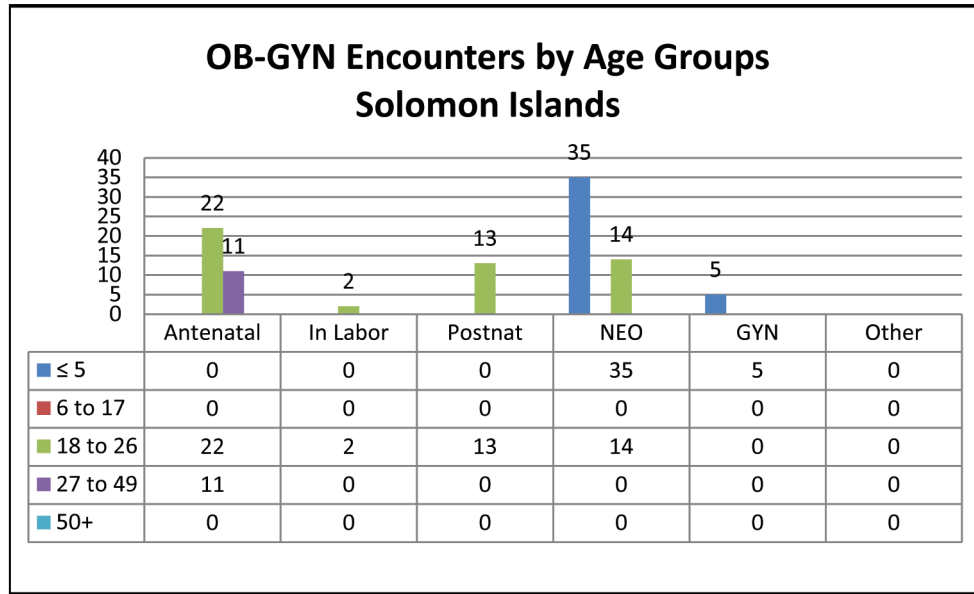


Figure C-10. OB/GYN encounters by age group.

## Pediatrics

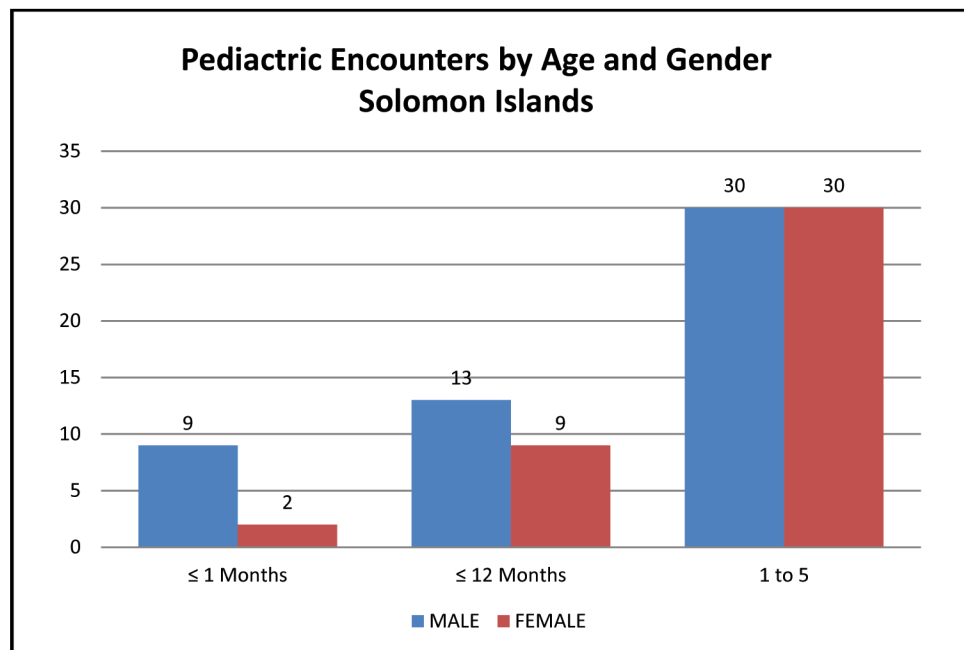


Figure C-11. Pediatric encounters by age and gender.

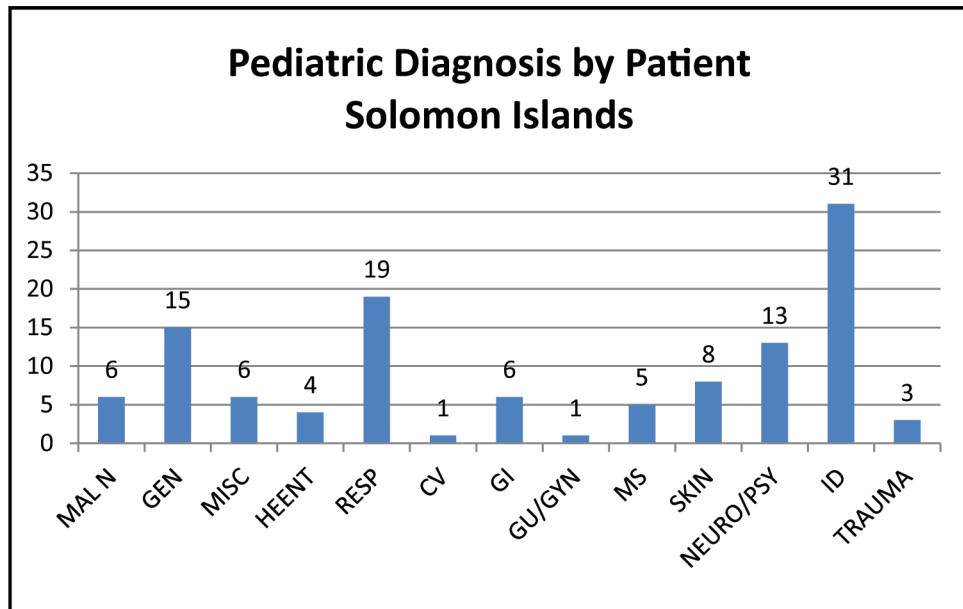


Figure C-12. Pediatric diagnosis by patient.

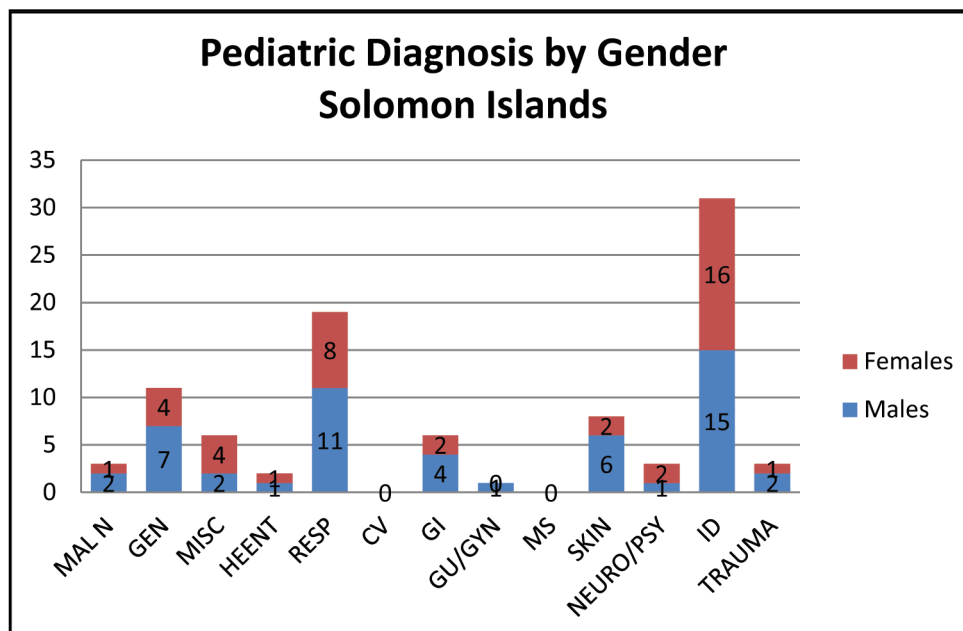


Figure C-13. Pediatric diagnosis by gender.

## Optometry

The optometry staff included one optometrist and one ophthalmic technician.

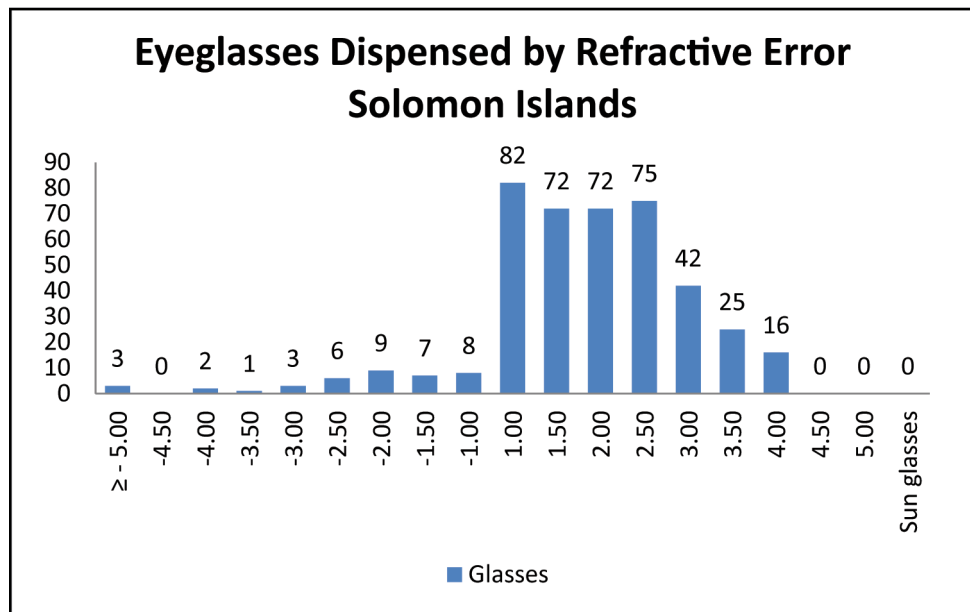


Figure C-14. Eyeglasses dispensed by refractive error.

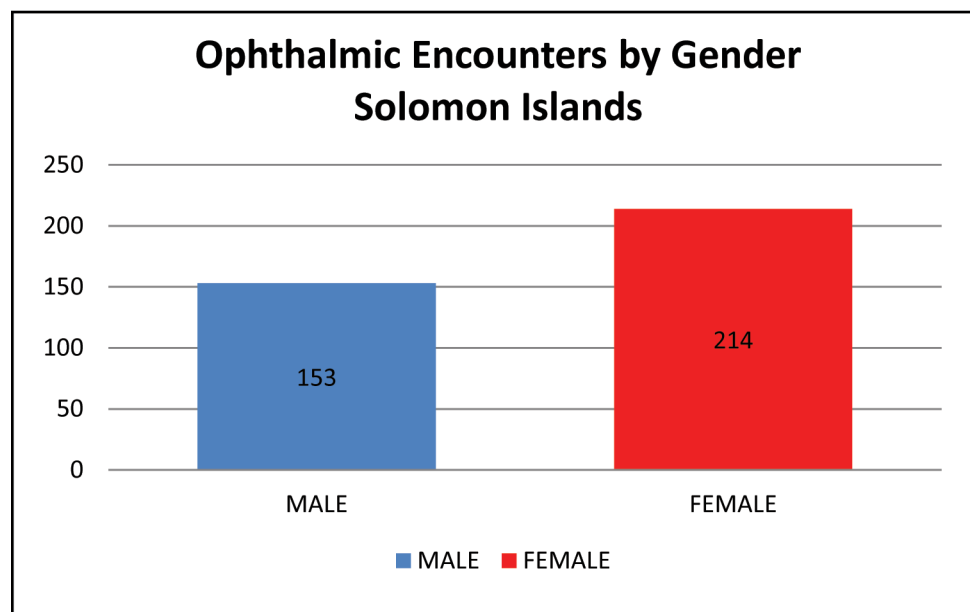


Figure C-15. Ophthalmic encounters by gender.

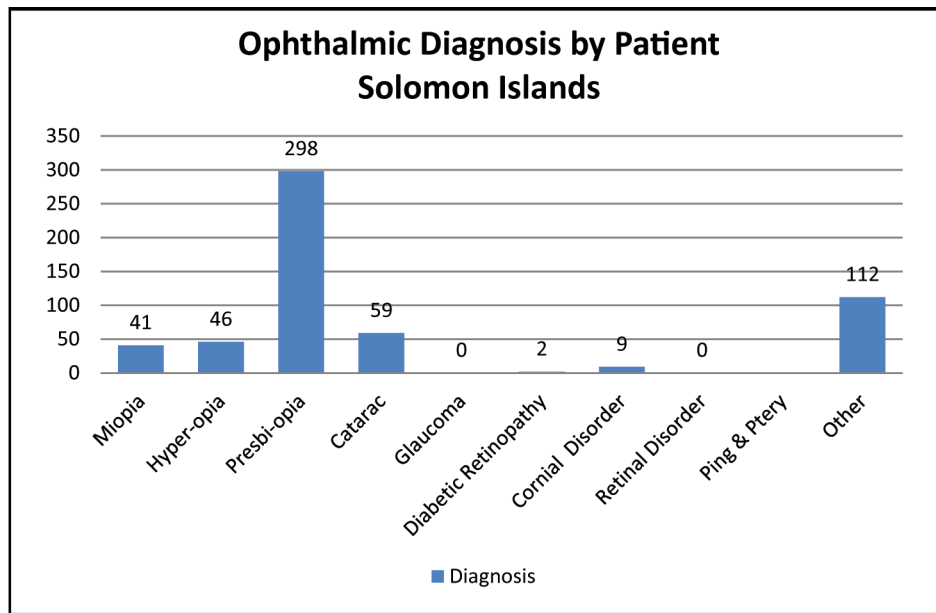


Figure C-16. Ophthalmic diagnosis by patient.

### Veterinary Services

The veterinary staff consisted of four veterinarians and four veterinarian technicians.

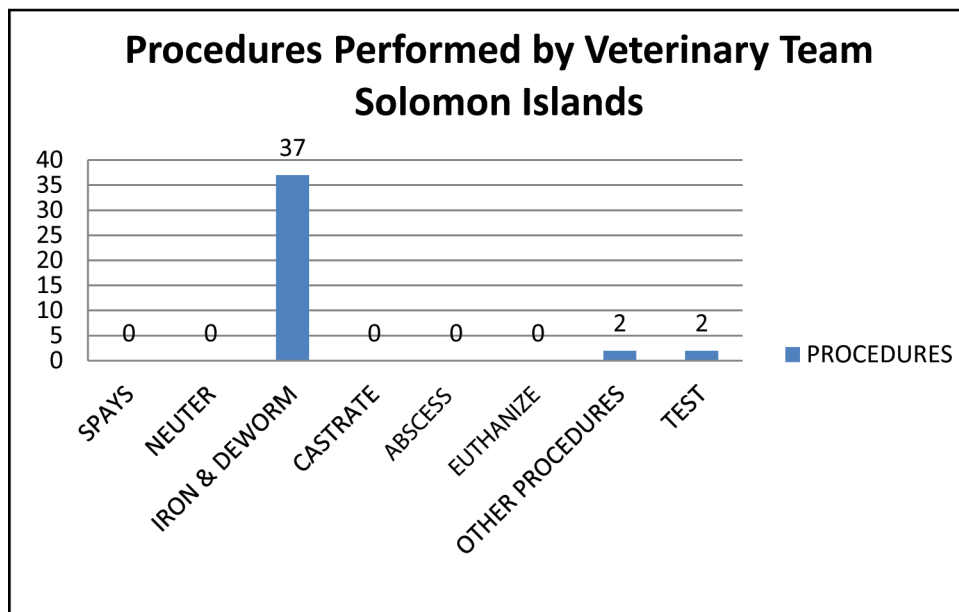
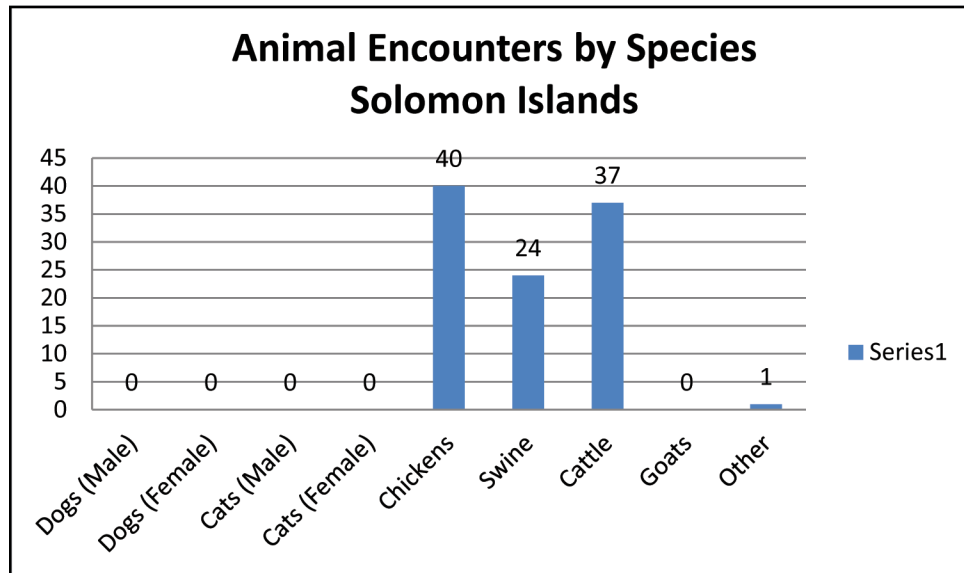


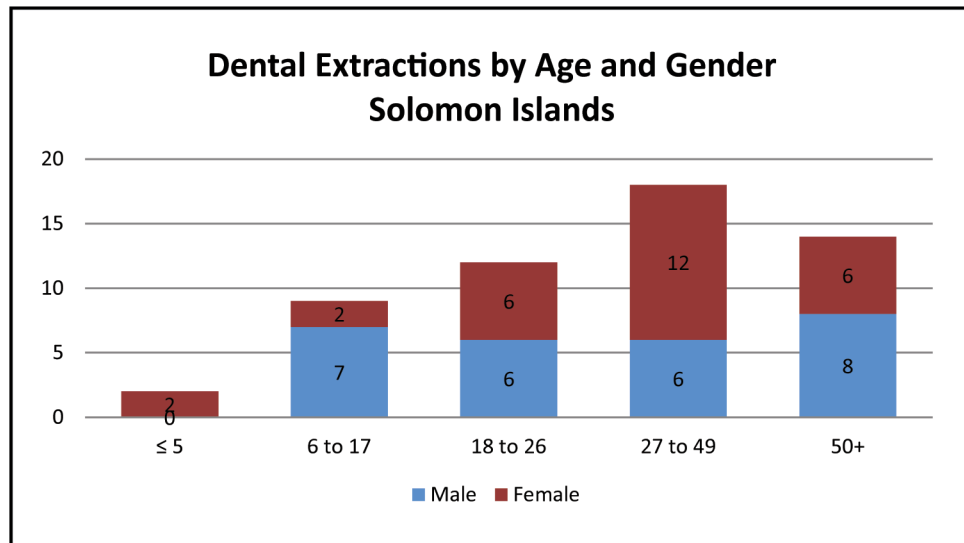
Figure C-17. A total of 37 cows were dewormed and two were administered pregnancy tests.



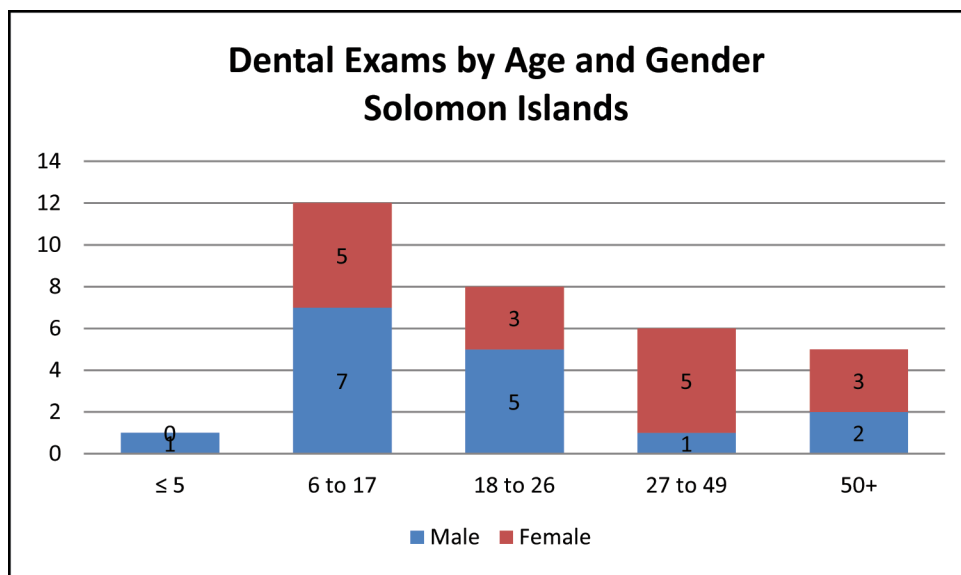
**Figure C-18. Animal encounters included 40 chickens, 24 pigs, 37 cows, and one crocodile.**

## Dental Service

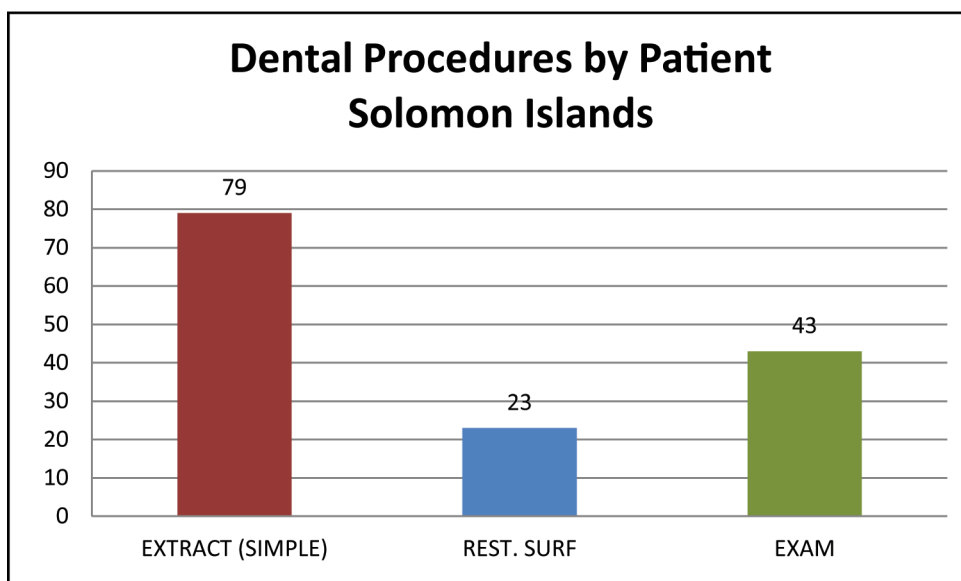
The dental staff included one oral surgeon, one endodontist, five general dentists, one dental hygienist, and four dental assistants.



**Figure C-19. Dental extractions by age and gender.**



**Figure C-20. Dental exams by age and gender.**



**Figure C-21. Dental procedures by patient.**

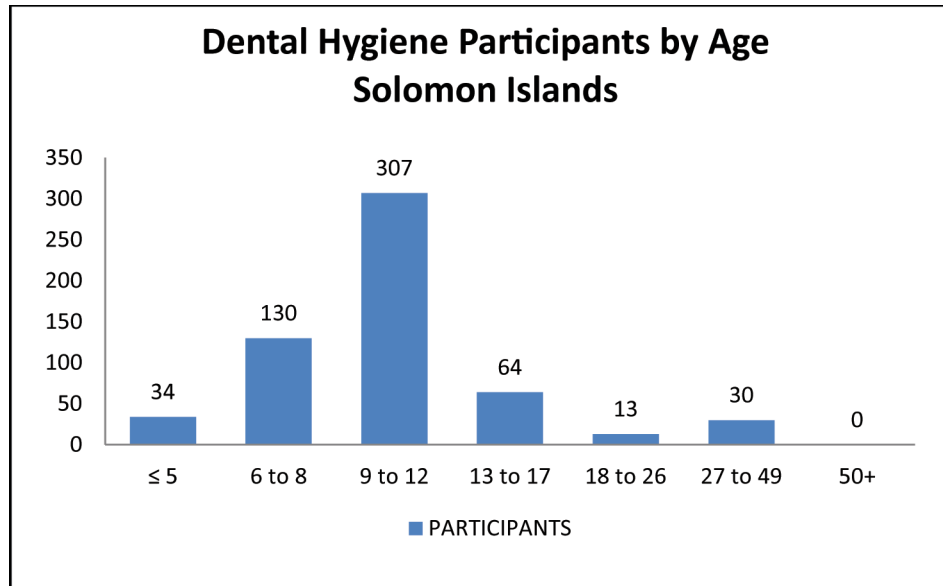


Figure C-22. Dental hygiene participants by age.

## Mental Health

The mental health staff included one neuropsychologist and one orderly/behavioral health technician.

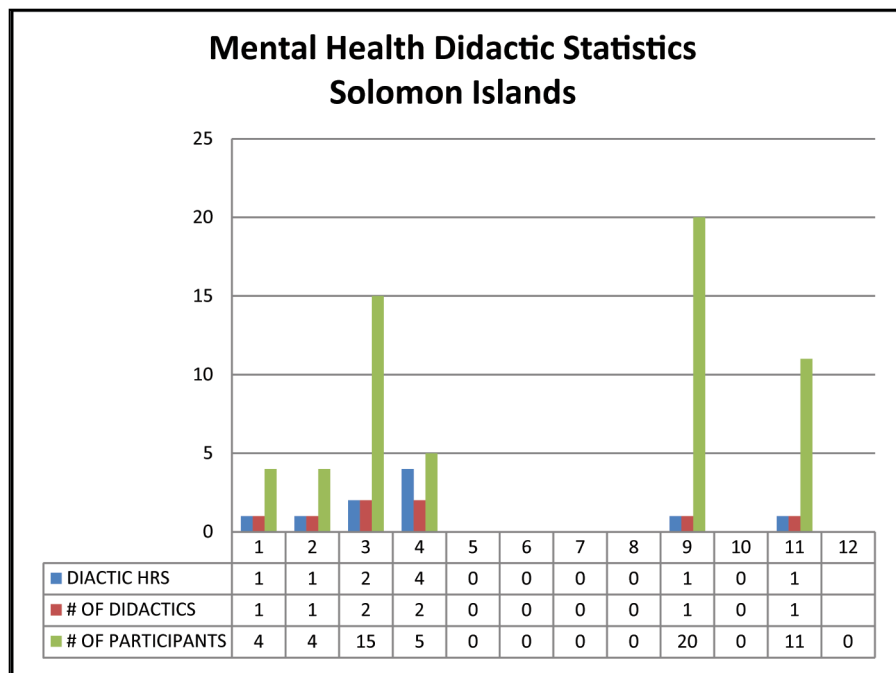
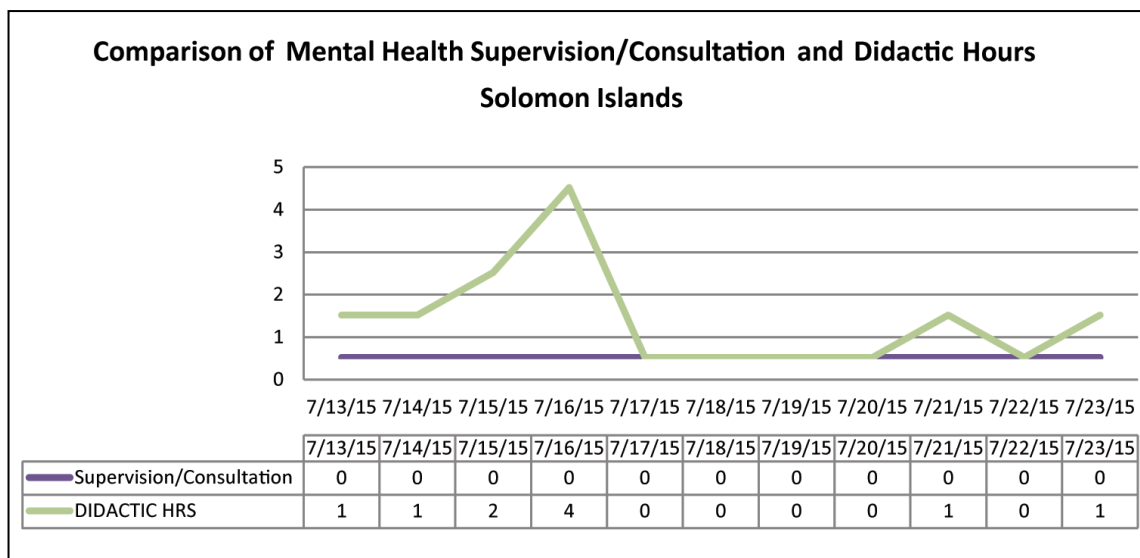


Figure C-23. Mental health didactic statistics.



**Figure C-24. Comparison of mental health supervision/consultation and didactic hours.**

## Nursing

The nursing staff included one intensive-care unit nurse, one operation-room nurse, one medical surgical nurse, one administrative nurse, seven licensed practical nurses/medics, and three medics.

**Table C-4. Nurse training courses/events and number of attendees.**

COURSE/EVENT	ATTENDEES
Basic Life Support (BLS)-AUKI	25
BLS-HONIARA	0
Basic First Responder Course (BFRC)-AUKI	20
BFRC-HONIARA	34
FIRST AID	18
NURSING LECTURE	34
NURSING SKILLS	18
TOTAL ATTENDEES	149

## Public Health Engagement

The public health staff consisted of one preventive medicine MD, one entomologist, one environmental health officer, one industrial hygienist, one microbiologist, one microbiology technician, and three preventive medicine technicians.

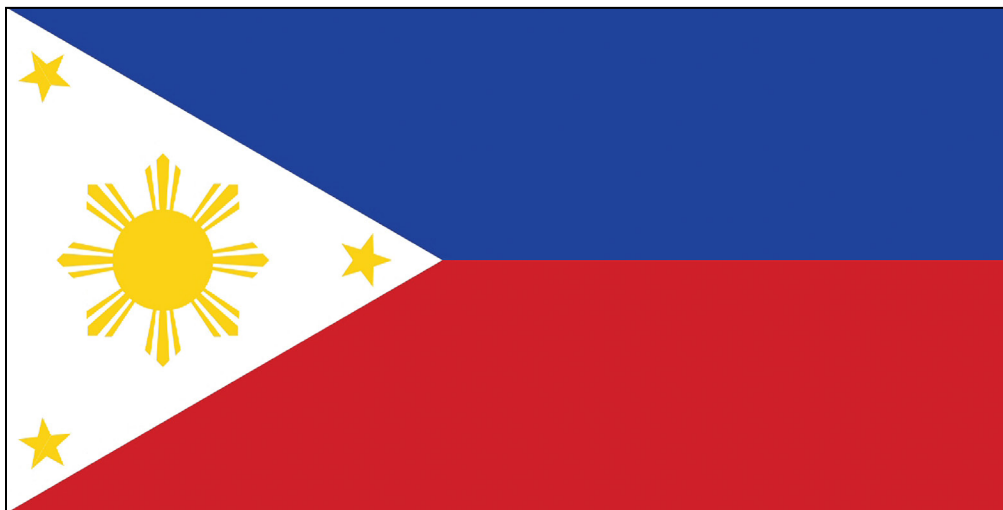
ENTOMOLOGY				ENVIRONMENTAL HEALTH					INDUSTRIAL HYGIENE				MICROBIOLOGY				
Traps Set	Breeding Sites ID	Students Trained	Hours Taught	Food Inspect	Water Samples	Water Tests	Students Trained	Hours Taught	Worksite Asmt	Analyzed Samples	Students Trained	Hours Taught	Molecul Analys	Microp Analys	Rapid Tests	Students Trained	Hours Taught
0	0	2	4	6	1	0	284	19	2	0	22	55	0	0	0	5	10

**Figure C-25. Public health engagements by department.**



## Appendix D

**Pacific Partnership 2015  
Community Health Engagement Statistical Report  
Republic of the Philippines**



This report summarizes the quantitative data collected during the Pacific Partnership 2015 (U.S. Naval Ship *Millinocket*) mission in the Republic of the Philippines, 05 to 15 AUG 2015. The data collection reflects the collaboration among the host nation, partner nations, and nongovernmental organizations.

**Table D-1. PP15 specialties in the Republic of the Philippines.**

<b>Pacific Partnership 2015 (PP15) Specialties Represented</b>		
Family Medicine	Nursing	Entomology
Emergency Medicine	Mental Health	Veterinary
Internal Medicine	Dental	Biomedical
Pediatrics	Dental Hygiene*	Public Health Engagement
Obstetrics/Gynecology (OB/GYN)*	Optometry	Chaplaincy*
*Indicates specialties without recorded data for the Philippines.		

### Data Collection Method

- Excel data collection spreadsheets were created by Project HOPE to obtain quantitative data and provide daily updates to the leadership, as well as create data collection forms to be used in the field and tallied at end of day (EOD).
- Data collection sheets were collected at EOD and manually entered into the spreadsheet; the leadership received a daily printout for operational purposes.

## Data Collection Summaries

**Table D-2. Population data from the World Health Organization.**

<b>Republic of the Philippines: Statistical Profile</b>		
<b>Indicators</b>	<b>Statistics</b>	<b>Year</b>
Population	983,940	2013
Population Age Under 15	34 Percent	2013
Median Age	23 Year	2013
Population Living in Urban Areas	45 Percent	2013

**Table D-3. Data collection summaries for patient care, attendance, gender ratios, and optometry.**

<b>PATIENT CARE</b>	
Total Human Patients	2,436
Total Human Procedures	681
Total Animal Encounters	722
Total Animal Procedures	1,237
Total Patients/Encounters	3,158
Total Procedures	2,640
<b>EVENT ATTENDEES</b>	
Total Attendees	2,085

<b>GENDER RATIOS</b>		
<b>Team</b>	<b>Male</b>	<b>Female</b>
Medical	38 Percent	62 Percent
Dental	44 Percent	56 Percent
Optometry*	29 Percent	71 Percent
*1,314 glasses dispensed.		

**Table D-4. Eleven-day patient statistics.**

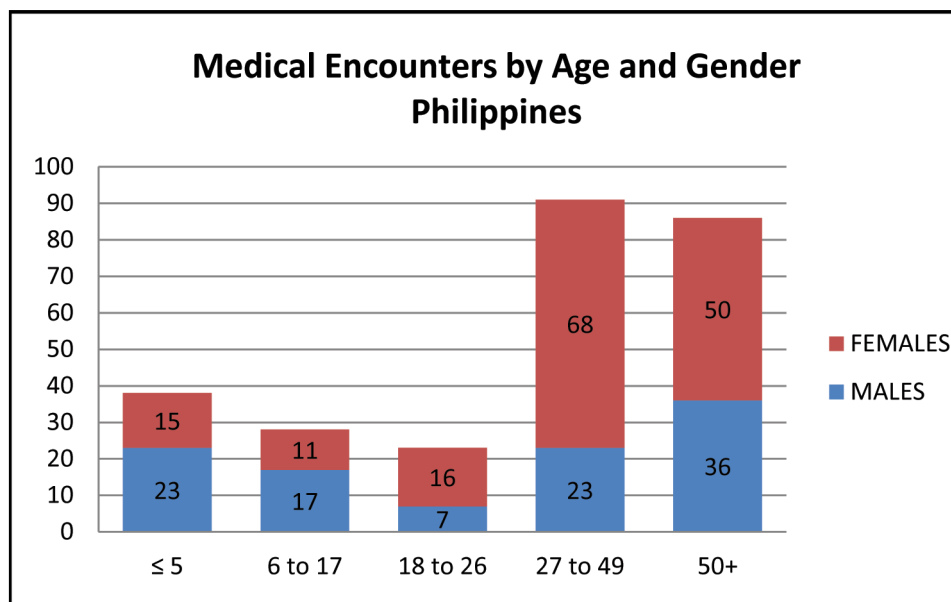
Date 2015	BLS	BF RC	Dental Symp	Nurse Symp	HBB	Teach Symp	Mental Health	Mili Engag	FD MU	Blood Prod	HA/ DR	VET	SEAT	BLS CHOT	1ST AID	Ldrshp	Daily Total
8/5	82	96			11							171	50			3	413
8/6				77			87			47				20		2	233
8/7				71	32	84				25		229		16		70	527
8/8														23			23
8/9																	
8/10	50			73	56					9				24		36	248
8/11	40													19		57	116
8/12	94							35								72	201
8/13	107											97		120			324
8/14																	
8/15																	
Total	373	96	0	221	99	84	87	35	0	81	0	497	50	222	0	240	2,085
Color RED indicates Joint events.																	
Color BLUE indicates multi-day events.																	

## Medical Services

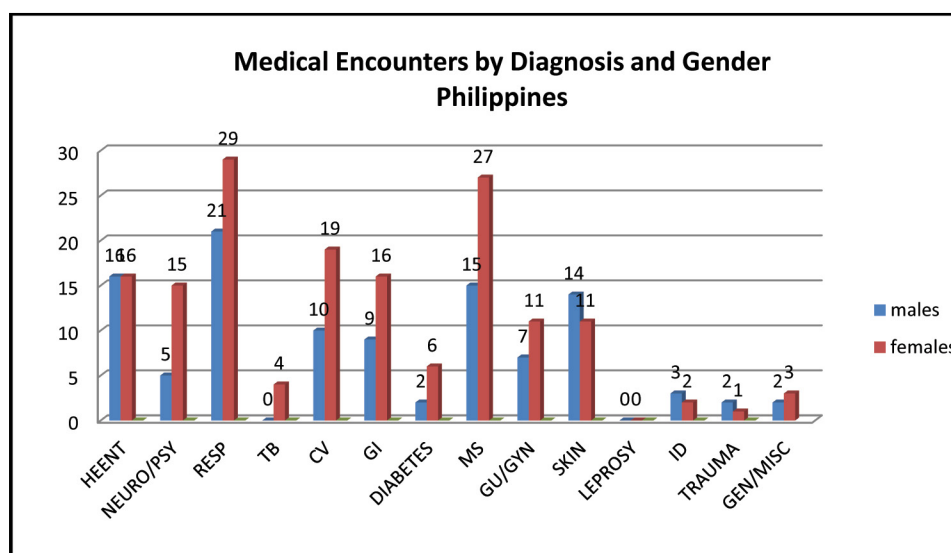
The medical services staff included one pediatric medical doctor (MD), one emergency medicine MD, one emergency medicine physician's assistant, one family nurse practitioner, and one internal medicine MD.

**Table D-5. Medical services provided, by gender.**

	MALE					FEMALE				
	< 5	6 TO 17	18 TO 26	27 TO 49	50+	< 5	6 TO 17	18 TO 26	27 TO 49	50+
HEENT	6	5	1	2	2	5	2	2	4	3
NEURO/ PSY			1		4			5	7	3
RESP	10	4	1	1	5	6	5	1	11	6
TB									4	
CV		1		2	7				9	10
GI		1	1	5	2		2	1	4	9
DIABETES				1	1				6	
MS				4	11	1	1		10	15
GU/GYN				6	1			4	5	2
SKIN	7	1	3	1	2	1	1	2	5	2
LEPROSY										
ID		2		1					2	
TRAUMA		2						1		
GEN/MISC		1			1	2			1	
TOTAL	23	17	7	23	36	15	11	16	68	50



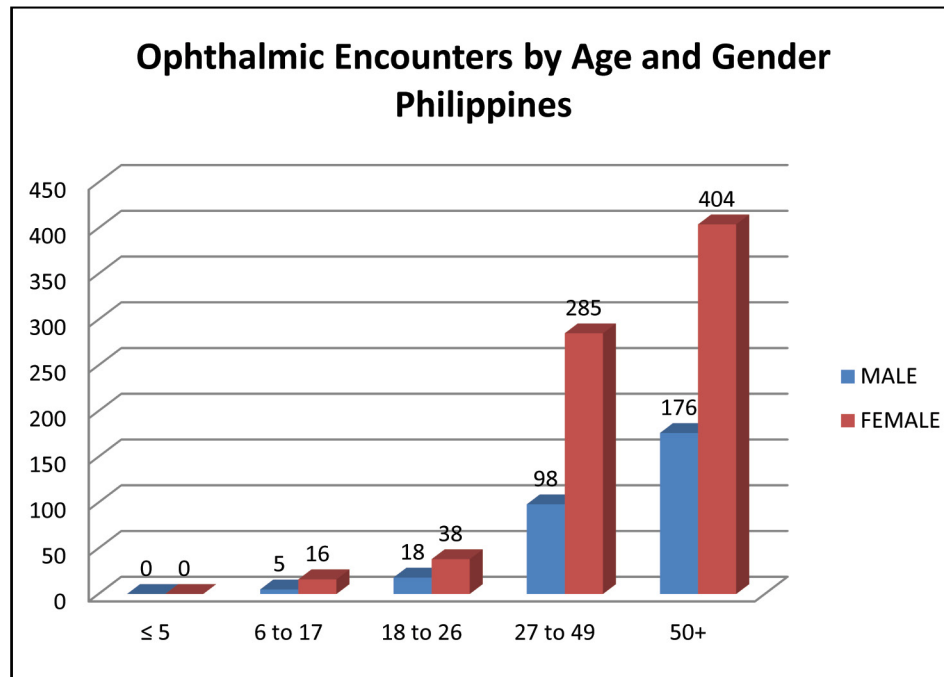
**Figure D-1. Age and gender comparisons for medical patients.**



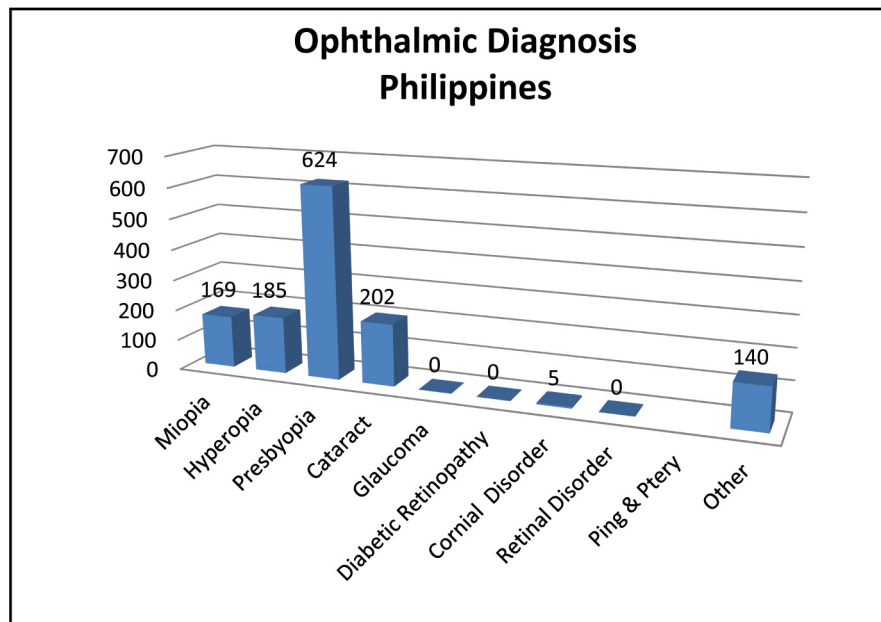
**Figure D-2. The leading diagnosis among males and females was respiratory complication.**

## Optometry

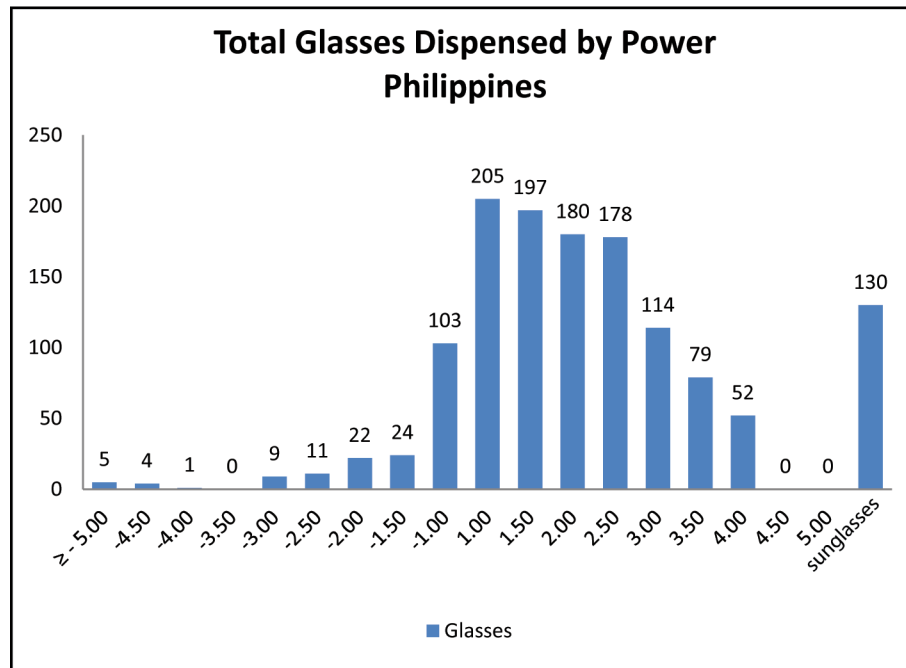
The optometry staff consisted of one optometrist and one ophthalmic technician.



**Figure D-3. Age comparisons for eye care patients.**



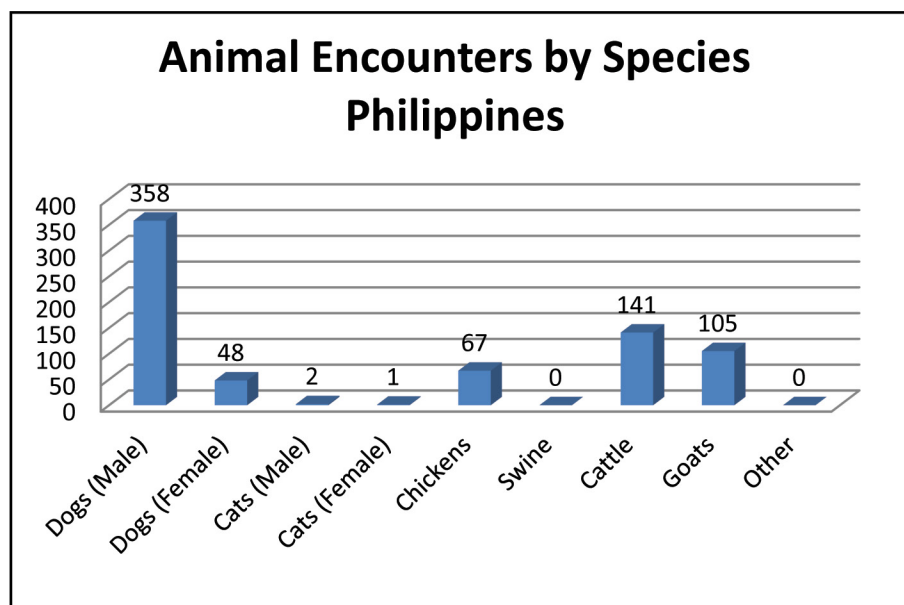
**Figure D-4. Presbyopia (624 cases) was the most frequent diagnosis, followed by cataracts (202) and hyperopia (185).**



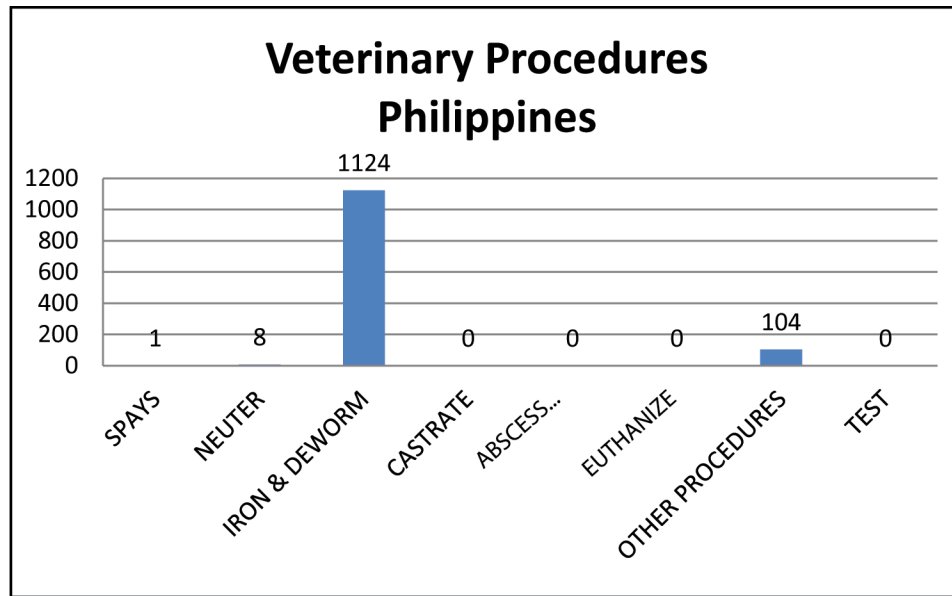
**Figure D-5. Lens powers of +1.00 (205), +1.50 (197), and +2.00 (180) were the most frequent dispensed.**

## Veterinary Services

The veterinary staff consisted of four veterinarians and four veterinarian technicians.



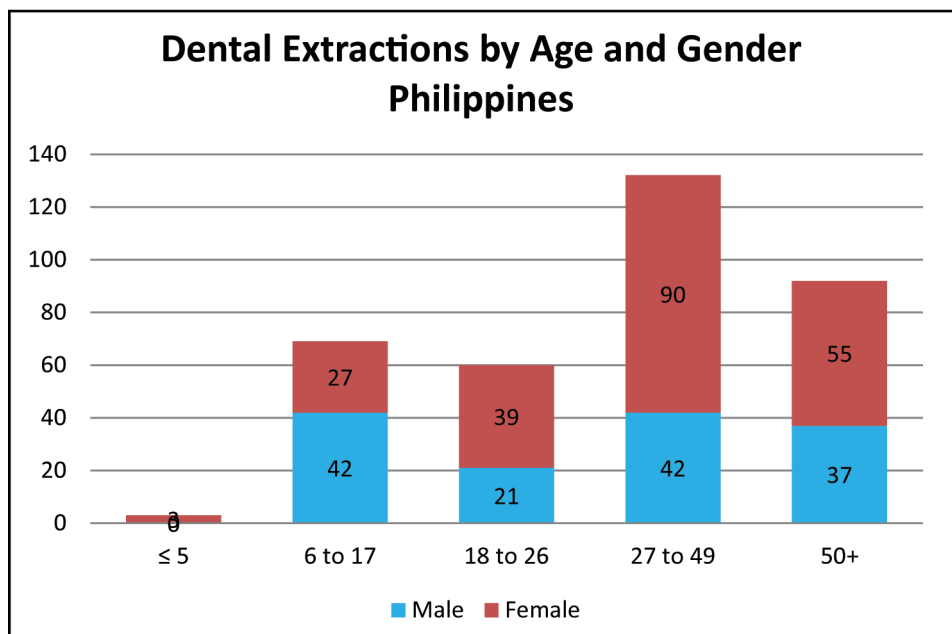
**Figure D-6. Male dogs (358) were the most frequent animals seen by the veterinary team, followed by cattle (141) and goats (105).**



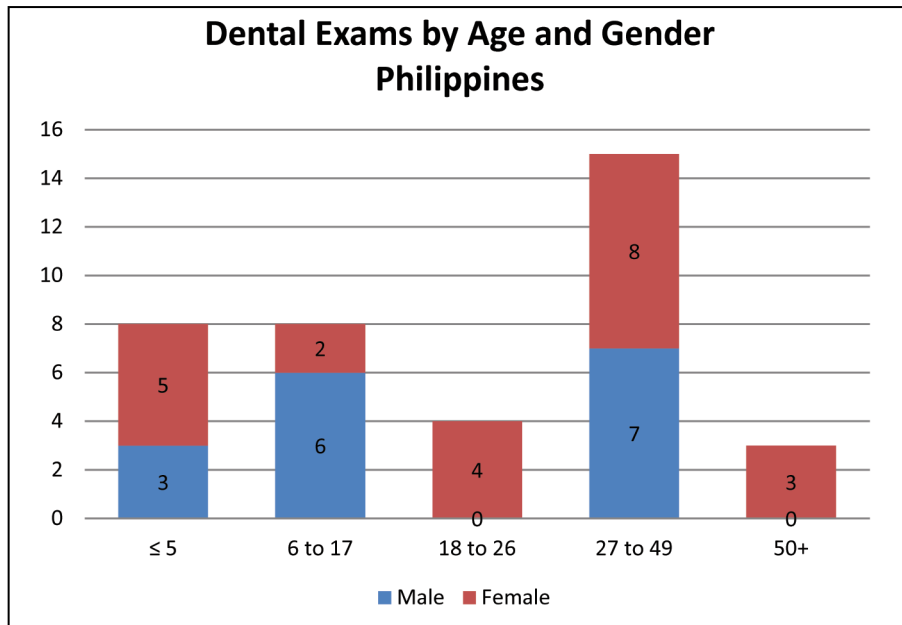
**Figure D-7. Administering iron supplements and deworming (1124) were the most frequent procedures performed by the veterinary team.**

## Dental Service

The dental staff included one oral surgeon, one endodontist, five general dentists, one dental hygienist, and four dental assistants.



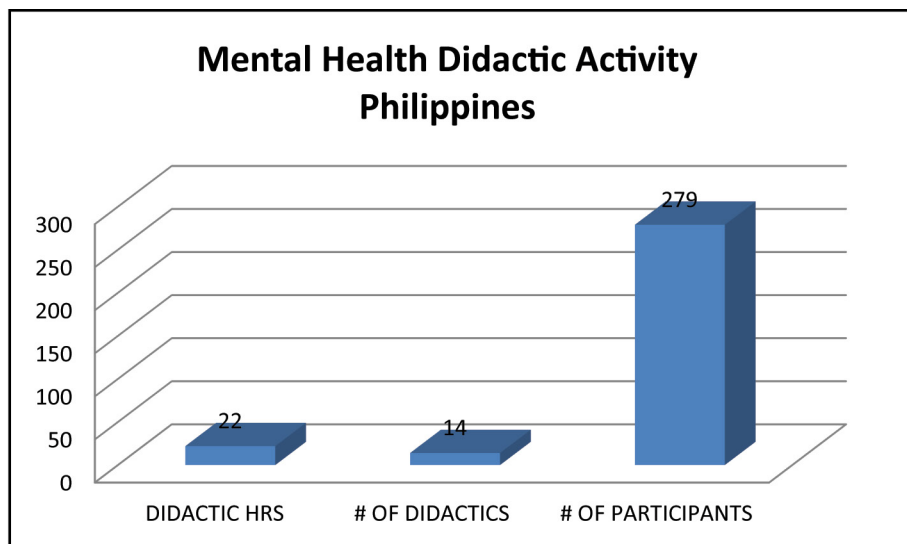
**Figure D-8. Simple tooth extractions were most common among patients ages 27 to 49.**



**Figure D-9. Dental exams by gender and age group.**

## Mental Health

The mental health staff included one neuropsychologist and one orderly/behavioral health technician. They covered 19 supervision/consultation hours and 14 didactic (training) activities.



**Figure D-10. Mental health didactics (a total of 22 hours over a 10-day period) involved 279 participants.**



## Nursing

The nursing staff had one intensive-care unit nurse, one operating room nurse, one medical surgical nurse, one administrative nurse, seven licensed-practical nurses, and three medics.

The nursing staff trained the host nation's medical and student nursing populations, including 48 nurses, 38 police officers, and 10 firemen.

## Biomedical

There was only one clinical engineer technician for the biomedical staff. The technician's collected data is available in the Management Analysis and Reporting System.

## Public Health Engagement

The public health staff consisted of a preventive medicine MD, an entomologist, an environmental health officer, an industrial hygienist, a microbiologist a microbiology technician, and three preventive medicine technicians.

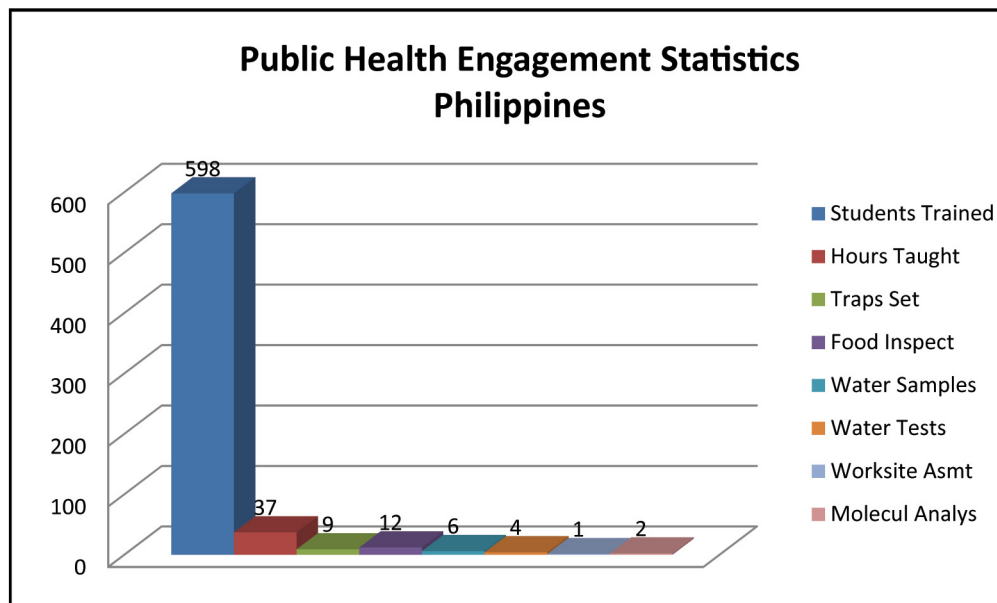


Figure D-11. Public health engagements.



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